

# **STIC Search Report**

## **EIC 1700**

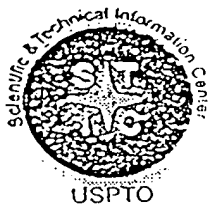
**STIC Database Tracking Number: 142460**

**TO: Vickey Ronesi**  
**Location: REM 10D24**  
**Art Unit : 1714**  
**January 21, 2005**

**Case Serial Number: 10/758503**

**From: Kathleen Fuller**  
**Location: EIC 1700**  
**REMSSEN 4B28**  
**Phone: 571/272-2505**  
**Kathleen.Fuller@uspto.gov**

### **Search Notes**



# STIC Search Results Feedback Form

**EIC 17000**

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

## **Voluntary Results Feedback Form**

- I am an examiner in Workgroup:  Example: 1713  
➤ Relevant prior art found, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art *not* found:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28

Mellerson, Kendra

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From: Unknown@Unknown.com  
Sent: Wednesday, January 12, 2005 4:32 PM  
To: STIC-EIC1700  
Subject: Generic form response

ResponseHeader=Commercial Database Search Request

AccessDB#= 142460

LogNumber= \_\_\_\_\_

Searcher= \_\_\_\_\_

SearcherPhone= \_\_\_\_\_

SearcherBranch= \_\_\_\_\_

MyDate=Wed Jan 12 16:31:42 EST 2005

submitto=STIC-EIC1700@uspto.gov

Name=Vickey Ronesi

Empno=80299

Phone=571-272-2701

Artunit=1714

Office=Remsen 10D24

Serialnum=10/758,503

PatClass=

Earliest=1/21/03

Format1=paper

Searchtopic=Please search the amended claims (filed 12/23/04) based on both text and structure. A structure search was performed before on claims 1 and 6. As for right now, please search for amended claims 1-3. Note that M cannot be a silicon atom. I'm looking for a 102 reference; I have a fairly good 103. Thank you!

Comments=

send=SEND

=> FILE REG

FILE 'REGISTRY' ENTERED AT 16:54:23 ON 19 JAN 2005

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 18 JAN 2005 HIGHEST RN 816330-31-1

DICTIONARY FILE UPDATES: 18 JAN 2005 HIGHEST RN 816330-31-1

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> FILE HCAPLU

FILE 'HCAPLUS' ENTERED AT 16:54:32 ON 19 JAN 2005

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FILE COVERS 1907 - 19 Jan 2005 VOL 142 ISS 4

FILE LAST UPDATED: 18 Jan 2005 (20050118/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE L49

L8

STR

4  
A  
X  
A-X-M-X-U  
1 2 3

*M = any metal, does not include Si*  
*structure query covering claim 1*  
*11,399 polymers*

NODE ATTRIBUTES:

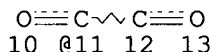
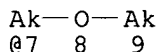
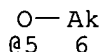
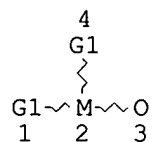
NSPEC IS RC AT 1

NSPEC IS RC AT 2  
 NSPEC IS RC AT 3  
 NSPEC IS RC AT 4  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

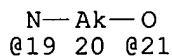
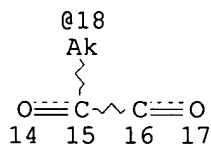
GRAPH ATTRIBUTES:  
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 NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE

L12 SCR 1918  
 L14 SCR 2043  
 L17 11399 SEA FILE=REGISTRY SSS FUL L8 AND L14 AND L12  
 L18 2739 SEA FILE=HCAPLUS ABB=ON L17(L) PREP/RL  
 L19 82 SEA FILE=HCAPLUS ABB=ON L18 AND OPTIC?  
 L20 28 SEA FILE=HCAPLUS ABB=ON L19 AND FILM?  
 L21 64 SEA FILE=HCAPLUS ABB=ON L18 AND METAL?(2A) OXIDE#  
 L22 5 SEA FILE=HCAPLUS ABB=ON L21 AND FILM#  
 L23 770 SEA FILE=REGISTRY ABB=ON L17 AND 1-2/TI, ZR  
 L24 416 SEA FILE=HCAPLUS ABB=ON L23  
 L25 18 SEA FILE=HCAPLUS ABB=ON L24 AND METAL?(2A) OXIDE#  
 L26 5 SEA FILE=HCAPLUS ABB=ON L25 AND FILM#  
 L27 62 SEA FILE=HCAPLUS ABB=ON L24 AND FILM#  
 L29 22 SEA FILE=HCAPLUS ABB=ON L27 AND (CUR? OR HEAT?)  
 L31 147 SEA FILE=HCAPLUS ABB=ON L18 AND COATING?/SC, SX, AB, BI  
 L32 12 SEA FILE=HCAPLUS ABB=ON L31 AND METAL?(2A) OXIDE#  
 L33 18 SEA FILE=HCAPLUS ABB=ON L18 AND ORG?(2A) INORG?(2A)?POLYMER?  
 L34 71 SEA FILE=HCAPLUS ABB=ON L20 OR L22 OR L26 OR L29 OR L32 OR L33  
 L35 31 SEA FILE=HCAPLUS ABB=ON L34 AND (OPTIC? OR COATING?)/SC, SX  
 L40 STR



*Subset search*  
*← query*  
*319 polymers*



VAR G1=5/7/11/18/19/21

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 6

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE

L42 319 SEA FILE=REGISTRY SUB=L17 SSS FUL L40  
 L43 174 SEA FILE=HCAPLUS ABB=ON L42  
 L44 8 SEA FILE=HCAPLUS ABB=ON L43 AND METAL?(2A)OXIDE#  
 L45 40 SEA FILE=HCAPLUS ABB=ON L43 AND (COATING? OR OPTIC?)/SC,SX  
 L46 17 SEA FILE=HCAPLUS ABB=ON L45 AND FILM#  
 L47 6 SEA FILE=HCAPLUS ABB=ON L46 AND (HEAT? OR CUR?)  
 L48 4 SEA FILE=HCAPLUS ABB=ON L44 AND L45  
 L49 34 SEA FILE=HCAPLUS ABB=ON L35 OR L47 OR L48

*34 CA references with utility*

=> D L49 1-34 BIB ABS IND HITSTR

L49 ANSWER 1 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:957392 HCAPLUS

DN 141:396939

TI Stable two-liquid inorganic binder compositions, and coatings containing them

IN Aiiso, Hiroyuki

PA TSB Y. K., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004315568	A2	20041111	JP 2003-107747	20030411
PRAI	JP 2003-107747		20030411		

AB The compns. consist of 1st components containing metal alkoxides and N-containing

organic compds. and 2nd components containing aqueous colloidal silica dispersions.

Thus, a binder comprising a solution containing MeSi(OMe)<sub>3</sub>, Me<sub>2</sub>Si(OMe)<sub>2</sub>, γ-glycidoxypyrrolytrimethoxysilane, diisopropoxytitanium bis(triethanolamine), and N-methylpyrrolidone and an acidic aqueous colloidal silica dispersion was mixed with Ti whisker to give a coating, which was applied on a PVC plate to give a **cured film** showing good water repellency and hardness. The binder was stable at -2° for 30 days.

IC ICM C08G079-00  
 ICS C09D001-00; C09D005-00; C09D183-04; C09D185-00

CC 42-10 (Coatings, Inks, and Related Products)

ST metal alkoxide binder coating nitrogen compd; alkoxysilane alkoxytitanate binder coating colloidal silica; two liq inorg binder coating pyrrolidone

IT Silsesquioxanes

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polysiloxane-, titanate-; stable two-liquid inorg. binders containing metal alkoxides, N compds., and colloidal silica for coatings)

IT Polysiloxanes, uses  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (silsesquioxane-, titanate-; stable two-liquid inorg. binders containing metal alkoxides, N compds., and colloidal silica for coatings)

IT Binders  
 Coating materials  
 (stable two-liquid inorg. binders containing metal alkoxides, N compds., and colloidal silica for coatings)

IT 7631-86-9, Colloidal silica, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (colloidal; stable two-liquid inorg. binders containing metal alkoxides, N compds., and colloidal silica for coatings)

IT **787620-19-3P 787620-20-6P**  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (stable two-liquid inorg. binders containing metal alkoxides, N compds., and colloidal silica for coatings)

IT 60-35-5, Acetamide, uses 68-12-2, DMF, uses 75-12-7, Formamide, uses 616-45-5, Pyrrolidone 872-50-4, N-Methylpyrrolidone, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (stable two-liquid inorg. binders containing metal alkoxides, N compds., and colloidal silica for coatings)

IT **787620-19-3P 787620-20-6P**  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (stable two-liquid inorg. binders containing metal alkoxides, N compds., and colloidal silica for coatings)

RN 787620-19-3 HCAPLUS

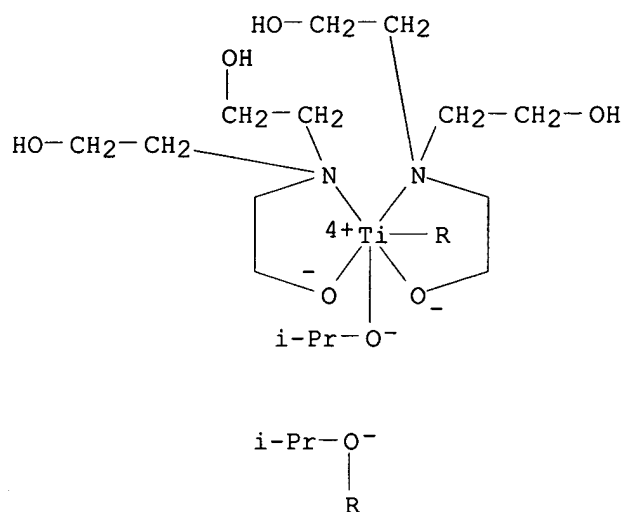
CN Titanium, bis[2-[bis(2-hydroxyethyl)amino-κN]ethanolato-κO]bis(2-propanolato)-, polymer with dimethoxydimethylsilane, trimethoxymethylsilane and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 36673-16-2

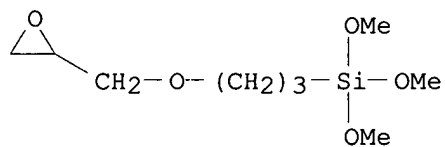
CMF C18 H42 N2 O8 Ti

CCI CCS



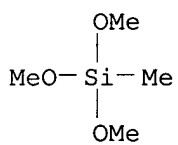
CM 2

CRN 2530-83-8  
CMF C9 H20 O5 Si



CM 3

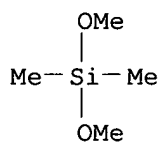
CRN 1185-55-3  
CMF C4 H12 O3 Si



CM 4

CRN 1112-39-6  
CMF C4 H12 O2 Si





RN 787620-20-6 HCAPLUS

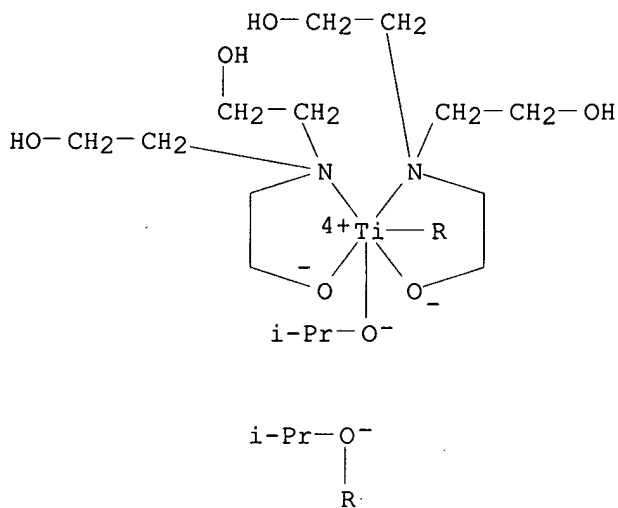
CN Titanium, bis[2-[bis(2-hydroxyethyl)amino-κN]ethanolato-κO]bis(2-propanolato)-, polymer with 1-butanol titanium(4+) salt, dimethoxydimethylsilane, trimethoxymethylsilane and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 36673-16-2

CMF C18 H42 N2 O8 Ti

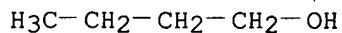
CCI CCS



CM 2

CRN 5593-70-4

CMF C4 H10 O . 1/4 Ti

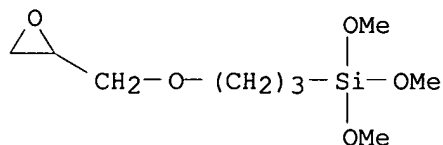


● 1/4 Ti(IV)

CM 3

CRN 2530-83-8

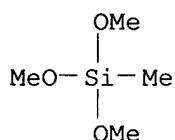
CMF C9 H20 O5 Si



CM 4

CRN 1185-55-3

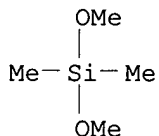
CMF C4 H12 O3 Si



CM 5

CRN 1112-39-6

CMF C4 H12 O2 Si



L49 ANSWER 2 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:801619 HCAPLUS

DN 141:322708

TI High-refractive index **cured films**, preparation of **curable** coating compositions for **films**, and antireflective **films**, polarizers, and displays assembled with the same

IN Kato, Eiichi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 36 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004271735	A2	20040930	JP 2003-60351	20030306
PRAI	JP 2003-60351		20030306		

AB The **cured films** with refractive index 1.6-2.4 are formed from **curable** coating comps. containing (A) TiO<sub>2</sub>-based inorg.

fine particles containing Co, Zr, and/or Al, (B) hydrolyzable functional group-containing organometallic compds. and/or their partial condensates, and optionally, (C) actinic energy ray-reactive and hydrolyzable functional group-containing organosilicon compds. and/or their partial condensates and photopolymer. initiators. The preparation of the **curable** coating compns. involves a step of inorg. ultrafine particle dispersions with mean particle size  $\leq 100$  nm by wet dispersion of the inorg. particles and dispersing agents containing  $\geq 1$  polar groups by using media with mean particle size  $< 1$  mm. The antireflective (AR) **film** comprises a transparent support having thereon a bilayered structure composed of the **cured film** layer topped with a low-refractive index (n.) layer having n.  $< 1.55$ . In another alternative, the AR **film** comprises a transparent support having thereon a 3-layered structure composed of bilayers of the **cured film** layers with different n. topped with a low-n. layer having n.  $< 1.55$ . The polarizer employs the AR **film** as at least one of the protective **films** of the polarizing **film**. In another alternative, the polarizer employs the AR **film** as one of the protective **films** of the polarizing **film** and an **optically compensating film** having **optical anisotropy** as the other protective **film** of the polarizing **film**. The display is assembled with the AR **film** or the polarizer on the imaging surface.

- IC ICM G02B001-10  
ICS B32B009-00; B32B027-04; C08J005-18; C09D004-00; C09D005-00; C09D007-12; C09D143-04; C09D183-04; C09D185-00; G02B005-30; G02F001-1335; C08L083-04
- CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 73
- ST cobalt contg titania **cured** antireflective **film**;  
zirconium contg titania **cured** antireflective **film**;  
aluminum contg titania **cured** antireflective **film**; UV **curable** coating antireflective **film** display; display polarizer protection antireflective **film** titania
- IT Fluoropolymers, preparation  
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (crosslinked, antisoiling layer; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)
- IT Fluoropolymers, preparation  
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (di-Me siloxane-, Opstar JN 7228, crosslinked, low refractive index layer; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)
- IT Polysiloxanes, preparation  
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (di-Me, fluorine-containing, Opstar JN 7228, crosslinked, low refractive index layer; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)
- IT Antireflective **films**  
**Optical** imaging devices  
Polarizers  
(preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)
- IT Silsesquioxanes

- RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (silicate-, high refractive index layer; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)
- IT Silicates, preparation  
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (silsesquioxane-, high refractive index layer; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)
- IT 9012-09-3, Fuji Tac TD 80UF  
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses) (base **film**; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)
- IT 251981-52-9P, Opstar JSR-JN 7214  
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (crosslinked, antisoiling layer; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)
- IT 758705-19-0 763271-19-8 763271-35-8 763271-42-7  
RL: NUU (Other use, unclassified); USES (Uses) (dispersing agents; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)
- IT 13463-67-7, Titania, uses  
RL: DEV (Device component use); MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses) (fine particles, containing Co, Zr, and/or Al; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)
- IT 254887-33-7P, DPHA-UV 6300B copolymer  
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (hard coat layer; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)
- IT 67653-78-5P, DPHA homopolymer  
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (hard coating; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)
- IT 152791-95-2P 763271-62-1P 763271-69-8P  
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (high refractive index layer; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)
- IT 9002-89-5, Poly(vinyl alcohol)  
RL: DEV (Device component use); USES (Uses) (iodine-doped, polarizing **film**; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)
- IT 4369-14-6DP, KBM 5103, hydrolytic condensate, polymer with heat-crosslinkable polysiloxane-fluoropolymers  
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (low refractive index layer; preparation of **curable** coating compns. for antireflective protective **films** for display

polarizers)

IT 763271-49-4P  
 RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (medium refractive index layer; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)

IT 766509-47-1, MPT 129  
 RL: DEV (Device component use); MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)

IT 9012-09-3DP, Fuji Tac TD 80UF, saponified  
 RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (protective **film**; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)

IT 7429-90-5, Aluminum, uses 7440-48-4, Cobalt, uses 7440-67-7, Zirconium, uses  
 RL: DEV (Device component use); MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (titania fine particles containing; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)

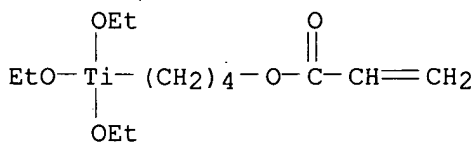
IT 194739-90-7, YTZ  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (wet milling ball; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)

IT 763271-49-4P  
 RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (medium refractive index layer; preparation of **curable** coating compns. for antireflective protective **films** for display polarizers)

RN 763271-49-4 HCAPLUS  
 CN Titanium, triethoxy[4-[(1-oxo-2-propenyl)oxy]butyl]-, (T-4)-, polymer with 2-[[[3-hydroxy-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate and 2-[[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

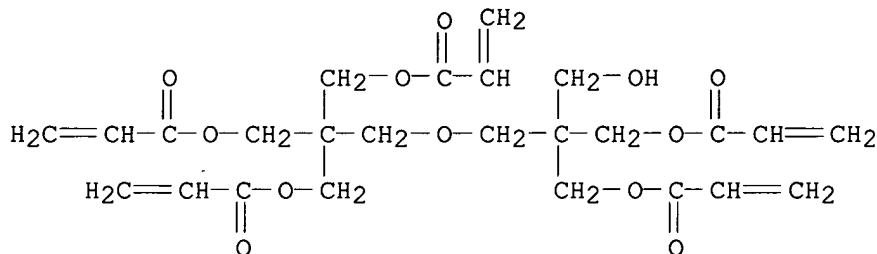
CM 1

CRN 758705-32-7  
 CMF C13 H26 O5 Ti



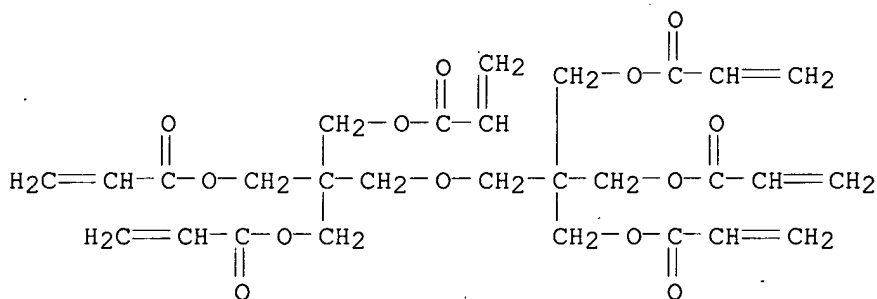
CM 2

CRN 60506-81-2  
CMF C25 H32 O12



CM 3

CRN 29570-58-9  
CMF C28 H34 O13



L49 ANSWER 3 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2004:670020 HCAPLUS  
DN 142:6930  
TI Design and synthesis of metal functionalized poly(norbornenes) for potential use in electro-optical devices  
AU Meyers, Amy; South, Clint; Weck, Marcus  
CS School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA, 30332-0400, USA  
SO Polymeric Materials: Science and Engineering (2004), 91, 810-811  
CODEN: PMSE DG; ISSN: 0743-0515  
PB American Chemical Society  
DT Journal; (computer optical disk)  
LA English  
AB We have designed a system which covalently links the luminescent chromophores aluminum tris(8-hydroxyquinoline) (Alq3) and zinc bis(8-hydroxyquinoline) (Znq2) to a norbornene unit. After ring-opening metathesis polymerization of the norbornene monomers, we obtained a solution-processable Alq3- and Znq2-polymers. The polymers showed excellent photoluminescence properties, both in solution and as thin **films**. Through simple ligand modifications, we are able to tune the emission color of the polymers from the blue to the yellow (430-550 nm). The polymer backbone does not interfere with the photoluminescence properties

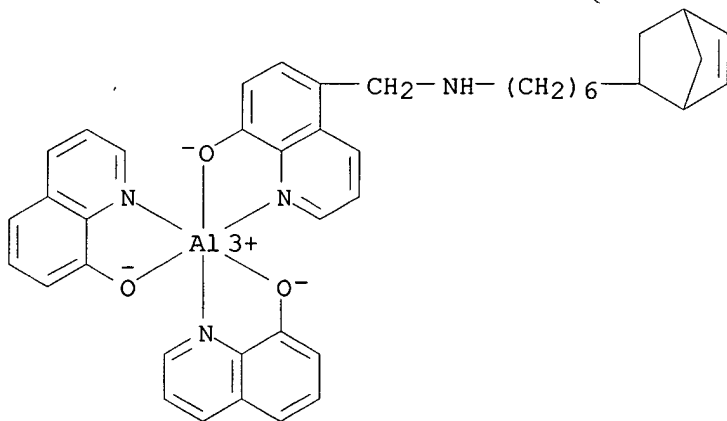
of the metalloquinolate side-chains.  
 CC 35-7 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 73  
 ST polynorbornene aluminum zinc hydroxyquinoline side chain photoluminescence  
 IT Luminescence  
 (synthesis and properties of metal functionalized poly(norbornenes) for potential use in electro-optical devices)  
 IT Polyalkenamers  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (synthesis and properties of metal functionalized poly(norbornenes) for potential use in electro-optical devices)  
 IT 796882-42-3P 796882-44-5P 797041-15-7P 797041-17-9P  
 RL: PRP (Properties); SPN (Synthetic preparation); **PREP**  
**(Preparation)**  
 (synthesis and properties of metal functionalized poly(norbornenes) for potential use in electro-optical devices)  
 IT 796882-42-3P 796882-44-5P  
 RL: PRP (Properties); SPN (Synthetic preparation); **PREP**  
**(Preparation)**  
 (synthesis and properties of metal functionalized poly(norbornenes) for potential use in electro-optical devices)  
 RN 796882-42-3 HCAPLUS  
 CN Aluminum, [5-[[[6-bicyclo[2.2.1]hept-5-en-2-ylhexyl)amino]methyl]-8-quinolinolato-κN1,κO8]bis(8-quinolinolato-κN1,κO8)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 511243-87-1

CMF C41 H41 Al N4 O3

CCI CCS



RN 796882-44-5 HCAPLUS

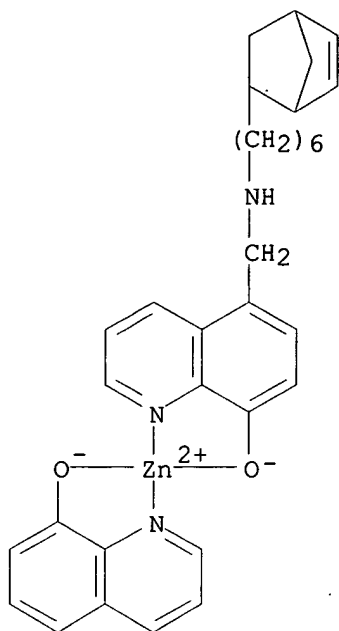
CN INDEX NAME NOT YET ASSIGNED

CM 1

CRN 796882-43-4

CMF C32 H35 N3 O2 Zn

CCI CCS



RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 4 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:633958 HCAPLUS

DN 141:158645

TI Hybrid **organic-inorganic polymer**  
**coatings** with high refractive indices for **optical**  
devices

IN Flaim, Tony D.; Wang, Yubao; Mercado, Ramil-Marcelo L.

PA Brewer Science, Inc., USA

SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004065428	A2	20040805	WO 2004-US1480	20040116
	WO 2004065428	A3	20041118		
	W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KR, KR, KZ, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ, MZ, NA, NI				
	US 2004171743	A1	20040902	US 2004-758503	20040115
PRAI	US 2003-441693P	P	20030121		
	US 2004-758503	A	20040115		

AB The composition comprises an organometallic oligomer  $-[M(R1)(R1)O]_n-$  ( $n > 2$ ; M = Group 3-5 and 13-15 metal other than silicone with combining valence  $> +2$ ; R1 = organic moiety), such as  $\beta$ -diketonate-chelated organometallic

*applicant*



oligomer prepared from poly(di-Bu titanate) and Et acetoacetate, dispersed or dissolved in a solvent system; and an organic polymer or oligomer with weight

average mol. weight  $\geq 150$  g/mol containing a functional group operable to form a covalent or coordinate-covalent bond with the organometallic oligomer, such as SAA 101 (styrene-allyl alc.). The compns. have long shelf lives and can be prepared by easy and reliable preparation procedures. The compns.

can

be **cured** to cause conversion of the compns. into **films** of **metal oxide** inter dispersed with organic polymer or oligomer. The **cured films** have high refractive indexes, high **optical** charities, and good mech. stabilities at **film** thickness  $>1 \mu\text{m}$ .

IC ICM C08F

CC 42-10 (**Coatings**, Inks, and Related Products)

Section cross-reference(s): 73

ST hybrid **org inorg polymer coating**

**optical** device; refractive index **org inorg polymer coating**

IT **Optical** imaging devices

(flat panels; hybrid **organic-inorg. polymer coatings** with high refractive indexes for **optical** devices)

IT **Coating** materials

Electroluminescent devices

Hybrid **organic-inorganic** materials

**Optical** instruments

**Optical** integrated circuits

**Optical** sensors

(hybrid **organic-inorg. polymer coatings** with high refractive indexes for **optical** devices)

IT Oxides (**inorganic**), uses

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(hybrid **organic-inorg. polymer coatings** with high refractive indexes for **optical** devices)

IT Polyoxyalkylenes, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(hybrid **organic-inorg. polymer coatings** with high refractive indexes for **optical** devices)

IT 141-97-9DP, Ethyl acetoacetate, reaction products with poly(di-Bu titanate) 13463-67-7P, Titana, uses 27901-88-8DP, 2-Acetoacetoxyethyl methacrylate-methyl methacrylate copolymer, reaction products with poly(di-Bu titanate) 161457-07-4DP, reaction products with Et acetoacetate or acrylic **copolymers**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(hybrid **organic-inorg. polymer coatings** with high refractive indexes for **optical** devices)

IT 9051-49-4, Propoxylated pentaerythritol 25119-62-4, SAA 101

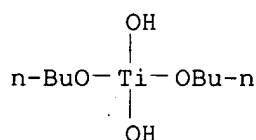
25322-68-3, Polyethylene glycol 25791-96-2, Propoxylated glycerol

31694-55-0, Ethoxylated glycerol 42503-45-7, Ethoxylated pentaerythritol

RL: TEM (Technical or engineered material use); USES (Uses)

(hybrid **organic-inorg. polymer coatings** with high refractive indexes for **optical**

devices)  
 IT **161457-07-4DP**, reaction products with Et acetoacetate or acrylic  
**copolymers**  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
 use); **PREP (Preparation)**; USES (Uses)  
 (hybrid **organic-inorg. polymer**  
**coatings** with high refractive indexes for **optical**  
 devices)  
 RN 161457-07-4 HCAPLUS  
 CN Titanium, dibutoxydihydroxy-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 14531-96-5  
 CMF C8 H20 O4 Ti



L49 ANSWER 5 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:310850 HCAPLUS  
 DN 140:340100  
 TI **Curable** adhesive compositions containing maleimide-  
 multifunctional thiol oligomers suitable for **optical**  
 applications  
 IN Shustack, Paul J.  
 PA Corning Inc., USA  
 SO U.S. Pat. Appl. Publ., 14 pp.  
 CODEN: USXXCO

DT Patent  
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004072933	A1	20040415	US 2002-253623	20020923
	US 6818680	B2	20041116		
PRAI	US 2002-253623		20020923		

AB A composition suitable for use as an adhesive or coating comprises (a) at least one polymerizable component **curable** by actinic radiation or electron beam radiation, (b) at least one multifunctional thiol of the general formula R-(SH)<sub>n</sub>, where R is any organic functional group excluding polyesters, polysulfides, mercaptoesters and carbon-carbon double bonds., and (c) optionally, a viscosity reducing polymerizable component. The composition can be used as adhesion promoter and/or primer to enhance adhesion of photo- or electron beam-**curable** polymers, coatings, adhesives, or sealants to gold, other precious metals, and their alloys. The resulting **cured** comps. are **optically** clear, have low T<sub>g</sub> (≤ 30°), high refractive index (> 1.50 at 1541 nm), thermally, oxidatively, and hydrolytically stable. The adhesive comps. containing such multifunctional thiols can survive, without delamination or separation, testing conditions of 85° and 85% relative humidity for time in excess of 500 h. Thus, an adhesive composition comprising 69.0% of an oligomer of 4,4'-dimercaptodiphenyl sulfide and a bismaleimide of a

C36-alkylene diamine (QMI 501), 23.0% of ethoxylated nonylphenol acrylate (Aronix M-111), 4.0% of Irgacure 1850, 3.0% of 3-mercaptopropyltrimethoxysilane (Silquest A-189), and 1.0% of Irganox 1035 antioxidant was produced.

IC ICM C08G002-00  
NCL 524280000  
CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 73  
ST maleimide polythiol acrylate **curable** adhesive compn  
**optical** application  
IT Fluoropolymers, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(acrylate-containing; **curable** adhesive compns. containing  
maleimide-multifunctional thiol oligomers suitable for **optical**  
applications)  
IT Epoxy resins, uses  
Polyesters, uses  
Polyethers, uses  
Polysiloxanes, uses  
Polyurethanes, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(acrylates; **curable** adhesive compns. containing  
maleimide-multifunctional thiol oligomers suitable for **optical**  
applications)  
IT Glass, uses  
Metals, uses  
Noble metals  
RL: DEV (Device component use); USES (Uses)  
(adhesives for; **curable** adhesive compns. containing  
maleimide-multifunctional thiol oligomers suitable for **optical**  
applications)  
IT Adhesion promoters  
Adhesives  
Coating materials  
**Optical films**  
**Optical instruments**  
(**curable** adhesive compns. containing maleimide-multifunctional  
thiol oligomers suitable for **optical** applications)  
IT Macromonomers  
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT  
(Reactant or reagent); USES (Uses)  
(**curable** adhesive compns. containing maleimide-multifunctional  
thiol oligomers suitable for **optical** applications)  
IT Epoxy resins, uses  
Polythioethers  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**curable** adhesive compns. containing maleimide-multifunctional  
thiol oligomers suitable for **optical** applications)  
IT Polymerization  
(photopolymn.; **curable** adhesive compns. containing  
maleimide-multifunctional thiol oligomers suitable for **optical**  
applications)  
IT Polythioethers  
RL: DEV (Device component use); IMF (Industrial manufacture); PRP  
(Properties); PREP (Preparation); USES (Uses)  
(polyether-polyimide-, bismaleimide-based, acrylic; **curable**  
adhesive compns. containing maleimide-multifunctional thiol oligomers  
suitable for **optical** applications)  
IT Polyimides, preparation

RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)  
 (polyether-polythioether-, bismaleimide-based, acrylic; **curable** adhesive compns. containing maleimide-multifunctional thiol oligomers suitable for **optical** applications)

IT Polythioethers  
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)  
 (polyimide-, bismaleimide-based, acrylic; **curable** adhesive compns. containing maleimide-multifunctional thiol oligomers suitable for **optical** applications)

IT Polyethers, preparation  
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)  
 (polyimide-polythioether-, bismaleimide-based, acrylic; **curable** adhesive compns. containing maleimide-multifunctional thiol oligomers suitable for **optical** applications)

IT Polyimides, preparation  
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)  
 (polythioether-, bismaleimide-based, acrylic; **curable** adhesive compns. containing maleimide-multifunctional thiol oligomers suitable for **optical** applications)

IT Thiols (organic), uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (polythiols; **curable** adhesive compns. containing maleimide-multifunctional thiol oligomers suitable for **optical** applications)

IT Polymerization  
 (radiochem.; **curable** adhesive compns. containing maleimide-multifunctional thiol oligomers suitable for **optical** applications)

IT Polyethers, uses  
 Polyoxyalkylenes, uses  
 Polyurethanes, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (thiol-terminated; **curable** adhesive compns. containing maleimide-multifunctional thiol oligomers suitable for **optical** applications)

IT 7440-02-0, Nickel, uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses  
 RL: DEV (Device component use); USES (Uses)  
 (adhesives for; **curable** adhesive compns. containing maleimide-multifunctional thiol oligomers suitable for **optical** applications)

IT **679812-56-7P**  
 RL: DEV (Device component use); IMF (Industrial manufacture); **PREP (Preparation)**; USES (Uses)  
 (**curable** adhesive compns. containing maleimide-multifunctional thiol oligomers suitable for **optical** applications)

IT 679411-06-4P 679812-51-2P 679812-53-4P 679812-54-5P 679812-55-6P  
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)  
 (**curable** adhesive compns. containing maleimide-multifunctional thiol oligomers suitable for **optical** applications)

IT 48145-04-6, 2-Phenoxyethyl acrylate 50974-47-5, Ethoxylated nonylphenol acrylate  
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)  
 (**curable** adhesive compns. containing maleimide-multifunctional

thiol oligomers suitable for **optical** applications)

IT 79-10-7D, Acrylic acid, esters and thioesters 79-41-4D, Methacrylic acid, esters and thioesters 97-65-4D, Itaconic acid, esters 105-09-9, 1,4-Benzenedimethanethiol 541-59-3D, Maleimide, derivs. 624-39-5, p-Benzenedithiol 626-04-0, m-Benzenedithiol 2399-48-6, Tetrahydrofurfuryl acrylate 2495-35-4, Benzyl acrylate 2495-37-6, Benzyl methacrylate 3570-55-6, 2-Mercaptoethyl sulfide 3724-65-0D, Crotonic acid, esters 4720-60-9, Pentaerythrityl tetramercaptan 5888-33-5, Isobornyl acrylate 12542-30-2, Dicyclopentenyl acrylate 14970-87-7, Triethylene glycol dimercaptan 17534-15-5, o-Benzenedithiol 19362-77-7, 4,4'-Thiobisbenzenethiol 41383-84-0, 1,2-Benzenedimethanethiol 41563-69-3, 1,3-Benzenedimethanethiol 68169-12-0, Dicyclopentenyl oxyethyl acrylate 71926-19-7 101359-87-9, Capcure 3-800 149303-87-7 288621-94-3 679411-04-2 679796-58-8 679804-71-8, Capcure LOF

RL: TEM (Technical or engineered material use); USES (Uses)  
(**curable** adhesive compns. containing maleimide-multifunctional thiol oligomers suitable for **optical** applications)

IT 679411-05-3P 679812-50-1P 679812-52-3P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(oligomeric; **curable** adhesive compns. containing maleimide-multifunctional thiol oligomers suitable for **optical** applications)

IT **679812-56-7P**

RL: DEV (Device component use); IMF (Industrial manufacture); **PREP (Preparation)**; USES (Uses)  
(**curable** adhesive compns. containing maleimide-multifunctional thiol oligomers suitable for **optical** applications)

RN 679812-56-7 HCAPLUS

CN Titanate(2-), tetrakis[2,2-bis[(2-propenyloxy)methyl]-1-butanolato-κO]bis(ditridecyl phosphito-κO')-, dihydrogen, polymer with OMI 501, 2-phenoxyethyl 2-propenoate and 2,2'-thiobis[ethanethiol] (9CI) (CA INDEX NAME)

CM 1

CRN 679812-42-1

CMF Unspecified

CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

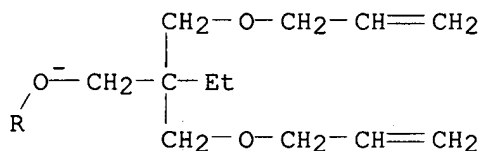
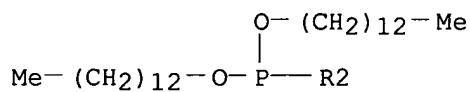
CM 2

CRN 64157-14-8

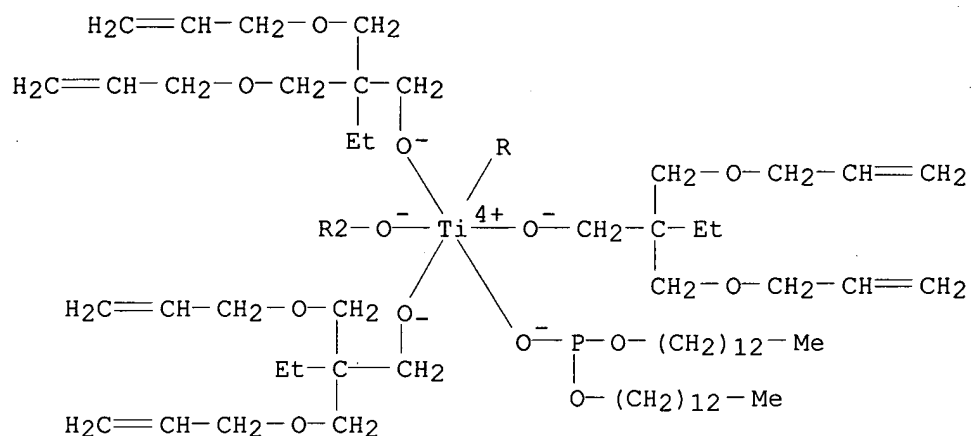
CMF C100 H192 O18 P2 Ti . 2 H

CCI CCS

PAGE 1-A



PAGE 2-A

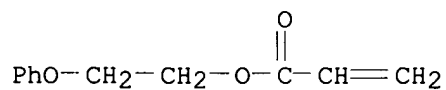


● 2 H<sup>+</sup>

CM 3

CRN 48145-04-6

CMF C11 H12 O3



CM 4

CRN 3570-55-6

CMF C4 H10 S3

HS-CH<sub>2</sub>-CH<sub>2</sub>-S-CH<sub>2</sub>-CH<sub>2</sub>-SH

L49 ANSWER 6 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:182953 HCAPLUS  
 DN 140:219464  
 TI **Coating** composition with good transparency and dispersibility  
 IN Kanamori, Tarou; Yoshimura, Nakaatsu; Nishikawa, Akira  
 PA JSR Corporation, Japan  
 SO PCT Int. Appl., 55 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004018579	A1	20040304	WO 2003-JP10066	20030807
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	JP 2004099879	A2	20040402	JP 2003-287099	20030805
PRAI	JP 2002-241028	A	20020821		
AB	Title composition comprises (A) metal fine particles and/or <b>metal oxide</b> particles, (B) a titanium compound having a specific structure and/or (C) an organosiloxane oligomer having a specific structure and (D) a silane compound having a specific structure. Thus, a composition with 20% solid content comprising anatase type titanium oxide 60, B 10 tetrabutoxytitanate oligomer 32, methyltrimethoxysilane 200, $\gamma$ -methacryloyloxypropyltrimethoxysilane 41, and aluminum di-isopropoxy ethylacetoacetate 10 parts showed good storage stability, adhesion, and transparency and water contact angle 4°.				
IC	ICM C09D183-04 ICS C09D183-12; C09D185-00				
CC	42-10 ( <b>Coatings</b> , Inks, and Related Products)				
ST	<b>coating</b> compn transparency dispersibility; titanoxane acrylic silsesquioxane titanium oxide compn				
IT	Silsesquioxanes RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (acrylic, binders, blend with titanoxanes; <b>coating</b> composition with good transparency and dispersibility)				
IT	Silanes RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses) (alkoxy, polymers, blend with titanoxanes; <b>coating</b> composition with good transparency and dispersibility)				
IT	Silsesquioxanes RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP				

(Preparation); USES (Uses)  
 (binders, blend with polyoxyalkylene polysiloxane and titanoxanes;  
**coating** composition with good transparency and dispersibility)

IT Polysiloxanes, uses  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (binders, blend with titanoxanes; **coating** composition with good transparency and dispersibility)

IT Titanoxanes  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (blend with silsesquioxanes; **coating** composition with good transparency and dispersibility)

IT Binders  
 (**coating** composition with good transparency and dispersibility)

IT Transparent materials  
 (**coatings**; **coating** composition with good transparency and dispersibility)

IT Metals, uses  
 Oxides (inorganic), uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (particles; **coating** composition with good transparency and dispersibility)

IT Polysiloxanes, uses  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (polyoxyalkylene-, epoxy-containing, MAC 2101, binders, blend with silsesquioxanes and titanoxanes; **coating** composition with good transparency and dispersibility)

IT Silsesquioxanes  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polysiloxane-, binders, blend with titanoxanes; **coating** composition with good transparency and dispersibility)

IT Polyoxyalkylenes, uses  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (siloxane-, epoxy-containing, MAC 2101, binders, blend with silsesquioxanes and titanoxanes; **coating** composition with good transparency and dispersibility)

IT Polysiloxanes, uses  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (silsesquioxane-, binders, blend with titanoxanes; **coating** composition with good transparency and dispersibility)

IT **Coating** materials  
 (storage-stable; **coating** composition with good transparency and dispersibility)

IT **Coating** materials  
 (transparent; **coating** composition with good transparency and dispersibility)

IT 9022-96-2, B 10  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (binder, B 7, blend with silsesquioxane; **coating** composition with good transparency and dispersibility)



IT 25498-03-7P, Methyltrimethoxysilane homopolymer 153315-80-1P  
 156637-69-3P,  $\gamma$ -Glycidoxypropyltrimethoxysilane-  
 methyltrimethoxysilane copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (binder, blend with polyoxyalkylene polysiloxane and titanoxane;  
**coating** composition with good transparency and dispersibility)

IT 53339-36-9, A 10  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (binder, blend with polysiloxane silsesquioxane; **coating**  
 composition with good transparency and dispersibility)

IT **663883-35-0P**  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); **PREP**  
**(Preparation)**; USES (Uses)  
 (binder, blend with silsesquioxane and polyoxyalkylene polysiloxane;  
**coating** composition with good transparency and dispersibility)

IT 149000-95-3P, Dimethyldimethoxysilane-methyltrimethoxysilane copolymer  
 169378-55-6P,  $\gamma$ -Methacryloyloxypropyltrimethoxysilane-  
 methyltrimethoxysilane copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (binder, blend with titanoxane; **coating** composition with good  
 transparency and dispersibility)

IT 1314-23-4, Zirconium oxide, uses 11129-18-3, Cerium oxide 13463-67-7,  
 Titanium oxide, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (particle; **coating** composition with good transparency and  
 dispersibility)

IT **663883-35-0P**  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); **PREP**  
**(Preparation)**; USES (Uses)  
 (binder, blend with silsesquioxane and polyoxyalkylene polysiloxane;  
**coating** composition with good transparency and dispersibility)

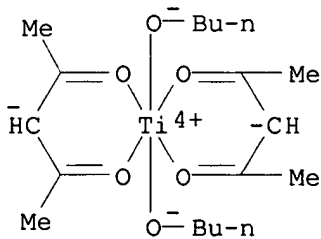
RN 663883-35-0 HCAPLUS  
 CN Titanium, dibutoxybis(2,4-pentanedionato- $\kappa$ O, $\kappa$ O')-, homopolymer  
 (9CI) (CA INDEX NAME)

CM 1

CRN 16902-59-3

CMF C18 H32 O6 Ti

CCI CCS



RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 7 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2003:864369 HCAPLUS  
DN 140:111737  
TI NLO active Pd(II)-based organometallic side-chain polymers with C,N or N,O-chelating chromophoric ligands  
AU Aiello, I.; Caruso, U.; Ghedini, M.; Panunzi, B.; Quatela, A.; Roviello, A.; Sarcinelli, F.  
CS Dipartimento di Chimica, Universita degli Studi della Calabria, Arcavacata, 87030, Italy  
SO Polymer (2003), 44(25), 7635-7643  
CODEN: POLMAG; ISSN: 0032-3861  
PB Elsevier Science Ltd.  
DT Journal  
LA English  
AB Three organometallic homopolymers and three copolymers have been obtained, by reacting, resp., cyclopalladated dinuclear complexes with a polymeric backbone, and by radical copolymerization of cyclopalladated acrylic monomers and Me methacrylate. Taking into account thermal behavior and solubility, the copolymers, which display good second order nonlinear **optical** activity, seem to be the most promising for applications within the new metalated macromolecules. Macroscopic nonlinear **optical** (NLO) coefficients  $d_{33}$  have been determined on spin-coated corona-poled thin films by means of Second Harmonic Generation (SHG) measurements at the wavelength of 1064 nm.  
CC 35-4 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 73  
ST cyclopalladated acrylic polymer chelating chromophoric ligand nonlinear **optical** property  
IT Fusion enthalpy  
Glass transition temperature  
Nonlinear **optical** materials  
Nonlinear **optical** properties  
Polymerization  
Second-harmonic generation  
Viscosity  
Wavelength  
(preparation and properties of nonlinear **optical** active Pd(II)-based organometallic side-chain polymers with C,N or N,O-chelating chromophoric ligands)  
IT 2460-58-4P, 4-Nitrosalicylaldehyde 5428-54-6P, 2-Methyl-5-nitrophenol 17189-38-7P 54362-24-2P 98590-42-2P 99604-57-6P 415687-15-9P 646535-98-0P 646535-99-1P 646536-00-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(intermediate; preparation and properties of nonlinear **optical** active Pd(II)-based organometallic side-chain polymers with C,N or N,O-chelating chromophoric ligands)  
IT 896-05-9P 2491-74-9P 72375-53-2P 82222-34-2P 182129-57-3P 644997-70-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(ligand; preparation and properties of nonlinear **optical** active Pd(II)-based organometallic side-chain polymers with C,N or N,O-chelating chromophoric ligands)  
IT 646536-01-8P 646536-02-9P 646536-03-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(monomer; preparation and properties of nonlinear **optical** active Pd(II)-based organometallic side-chain polymers with C,N or N,O-chelating chromophoric ligands)

IT 99604-57-6DP, reaction products with -chelating chromophoric ligand-containing acrylic polymers 212309-81-4DP, reaction products with palladium complexes 646535-98-0DP, reaction products with chelating chromophoric ligand-containing acrylic polymers 646535-99-1DP, reaction products with -chelating chromophoric ligand-containing acrylic polymers  
**646536-04-1P 646536-05-2P 646536-06-3P**  
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**  
(preparation and properties of nonlinear **optical** active Pd(II)-based organometallic side-chain polymers with C,N or N,O-chelating chromophoric ligands)

IT 644997-69-3P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and properties of nonlinear **optical** active Pd(II)-based organometallic side-chain polymers with C,N or N,O-chelating chromophoric ligands)

IT 91-68-9, 3-(Diethylamino)phenol 99-55-8, 2-Methyl-5-nitroaniline 100-01-6, 4-Nitroaniline, reactions 100-10-7, 4-(Dimethylamino)benzaldehyde 108-24-7, Acetic anhydride 110-86-1, Pyridine, reactions 121-69-7, N,N-Dimethylaniline, reactions 121-88-0, 2-Amino-5-nitrophenol 138-89-6, N,N-Dimethyl-4-nitrosoaniline 3375-31-3 17754-90-4, 4-(Diethylamino)salicylaldehyde  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting material; preparation and properties of nonlinear **optical** active Pd(II)-based organometallic side-chain polymers with C,N or N,O-chelating chromophoric ligands)

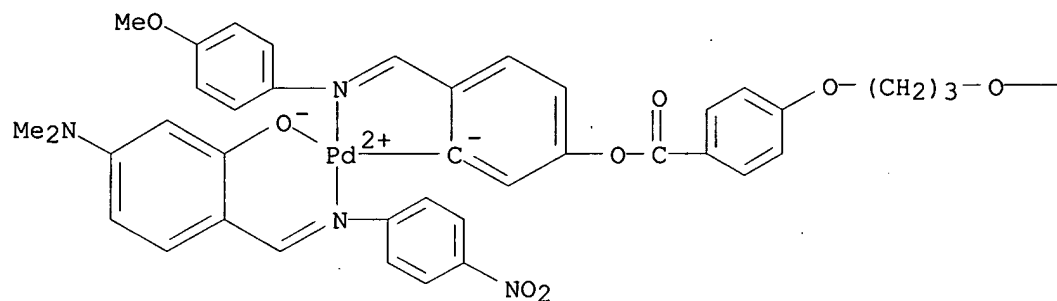
IT **646536-04-1P 646536-05-2P 646536-06-3P**  
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**  
(preparation and properties of nonlinear **optical** active Pd(II)-based organometallic side-chain polymers with C,N or N,O-chelating chromophoric ligands)

RN 646536-04-1 HCAPLUS  
CN Palladium, [5-(dimethylamino)-2-[[[(4-nitrophenyl)imino-κN)methyl]phenolato-κO][2-[[[(4-methoxyphenyl)imino-κN)methyl]-5-[[4-[3-[(1-oxo-2-propenyl)oxy]propoxy]benzoyl]oxy]phenyl-1-κC]-, (SP-4-4)-, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

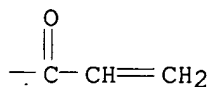
CM 1

CRN 646536-01-8  
CMF C42 H38 N4 O9 Pd  
CCI CCS

PAGE 1-A

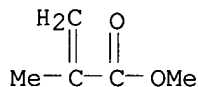


PAGE 1-B



CM 2

CRN 80-62-6  
CMF C5 H8 O2

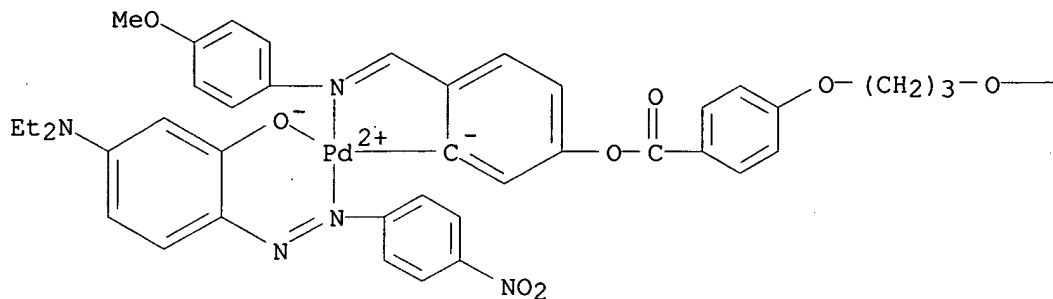


RN 646536-05-2 HCAPLUS  
CN Palladium, [5-(diethylamino)-2-[(4-nitrophenyl)azo-κN2]phenolato-κO][2-[[[(4-methoxyphenyl)imino-κN]methyl]-5-[[4-[3-[(1-oxo-2-propenyl)oxy]propoxy]benzoyl]oxy]phenyl-κC]-, (SP-4-4)-, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

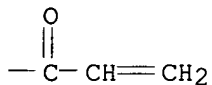
CM 1

CRN 646536-02-9  
CMF C43 H41 N5 O9 Pd  
CCI CCS

PAGE 1-A



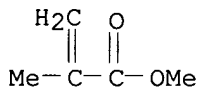
PAGE 1-B



CM 2

CRN 80-62-6

CMF C5 H8 O2



RN 646536-06-3 HCAPLUS

CN Palladium, [5-(diethylamino)-2-(5-nitro-2-benzoxazolyl-κN3)phenolato-κO][2-[[[(4-methoxyphenyl)imino-κN]methyl]-5-[[4-[3-[(1-oxo-2-propenyl)oxy]propoxy]benzoyl]oxy]phenyl-κC]-, (SP-4-4)-, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

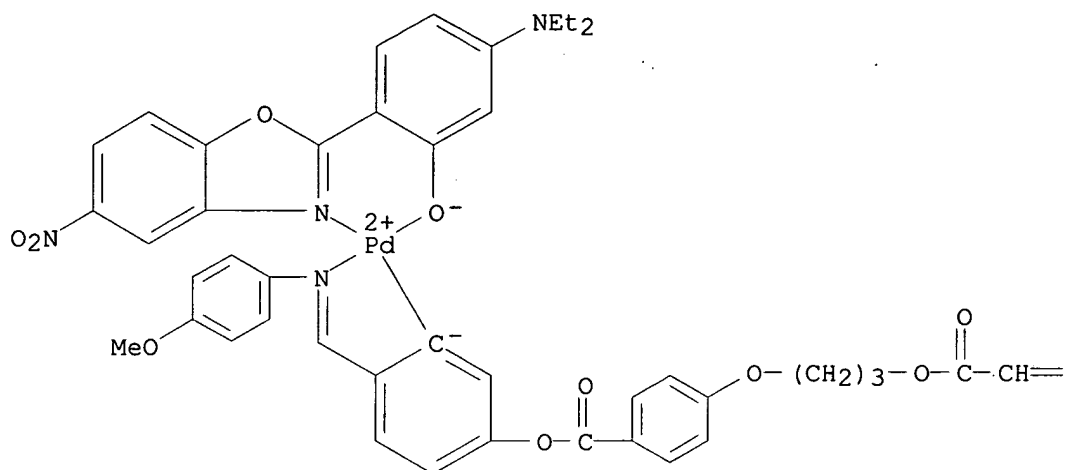
CM 1

CRN 646536-03-0

CMF C44 H40 N4 O10 Pd

CCI CCS

PAGE 1-A

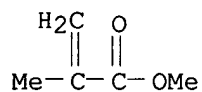


PAGE 1-B

$$= \text{CH}_2$$

CM 2

CRN 80-62-6  
CMF C5 H8 O2



RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 8 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2003:470957 HCAPLUS  
DN 139:44013

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

TI **Optical** material compositions containing silicon, germanium, and organic components and their **optical** devices

IN Yomo, Hiroko; Nakamura, Koichiro; Yamamoto, Hiroaki

PA Nippon Sheet Glass Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 2003172802	A2	20030620	JP 2001-373066	20011206
PRAI	JP 2001-373066		20011206		

AB The compns. are obtained by reaction of Si compds. containing functional organic

groups and/or hydrolyzable groups and Ge compds. containing organic functional groups and/or hydrolyzable groups. Preferably, the Si compds. may be  $R_1SiX_{14-i}$ ,  $R_14Si$ , or  $SiX_{14}$  and the Ge compds. may be  $R_2jGeX_{24-j}$ ,  $R_{24}Ge$ , or  $GeX_{24}$  ( $i, j = 1, 2, 3$ ;  $R_1-2$  = organic functional group;  $X_1-2$  = hydrolyzable group) with at least the Si or the Ge compds. containing both the organic and the hydrolyzable groups. **Optical** devices with multilayered thin films including a layer obtained by polymerization of the said compns. are also claimed. Manufacture of **optical** waveguides by formation of core layer from a claimed composition containing a photopolymn. initiator and clad layer from that free of a photopolymn. initiator was demonstrated. **Optical** filters may also be made from the compns.

IC ICM G02B001-04

ICS C08F290-14; C08G079-00; G02B005-18; G02B006-12; C08G077-58

CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)

ST **optical** waveguide hydrolyzable silane org germane polymn; siloxane germanoxane **optical** compn

IT Aluminoxanes

Group IVA element compounds

Silsesquioxanes

RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (aluminoxane-germanoxane-silsesquioxanes; manufacture of **optical** devices from compns. containing siloxanes and germanoxanes having organic groups)

IT **Optical** filters

**Optical** waveguides

(manufacture of **optical** devices from compns. containing siloxanes and germanoxanes having organic groups)

IT 541533-66-8P

RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(**optical** waveguide core; manufacture of **optical** devices from compns. containing siloxanes and germanoxanes having organic groups)

IT 541533-66-8P

RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(**optical** waveguide core; manufacture of **optical** devices from compns. containing siloxanes and germanoxanes having organic groups)

RN 541533-66-8 HCAPLUS

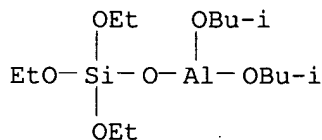
CN Aluminum, bis(2-methyl-1-propanolato)(triethyl orthosilicato- $\kappa O'''$ )-, polymer with trichloro-2-propenylgermane and 3-(trimethoxysilyl)propyl

2-methyl-2-propenoate, hydrolytic (9CI) (CA INDEX NAME)

CM 1

CRN 126950-11-6

CMF C14 H33 Al O6 Si



CM 2

CRN 7732-18-5

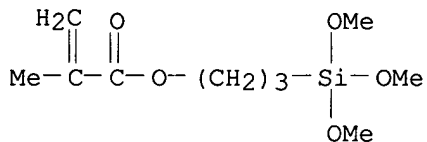
CMF H2 O

H<sub>2</sub>O

CM 3

CRN 2530-85-0

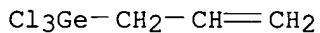
CMF C10 H20 O5 Si



CM 4

CRN 762-67-4

CMF C3 H5 Cl3 Ge



L49 ANSWER 9 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:352191 HCAPLUS

DN 138:360186

TI Structure having self-assembled organic **film** and its manufacture for device

IN Shimomura, Masashi; Sawadaishi, Tetsuro; Tamaki, Koichi; Kurono, Nobuhito; Koyama, Tamami; Murofushi, Katsumi; Shirane, Hiroaki

PA Institute of Physical and Chemical Research, Japan; Showa Denko K. K.

SO Jpn. Kokai Tokkyo Koho, 13 pp.



CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003128832	A2	20030508	JP 2001-325367	20011023
PRAI	JP 2001-325367		20011023		

AB The structure is manufactured by forming an organic **film** by self assembly and regularly arranging fine particles in nano- to micro-size pattern pores of the **film**. The **film** may be an elec. conductor or an elec. insulator. Preferably, the particles contain organic dye mols. or light-emitting rare earth metals. The structure is suitable for large-area flexible display devices, electroluminescent panels, photonic crystals, **optical** waveguides, light energy converters, DNA chips, etc.

IC ICM C08J009-36  
ICS B82B001-00; B82B003-00; H05B033-02; H05B033-10; H05B033-14; C08L101-00

CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)  
Section cross-reference(s): 9, 38, 74, 76

ST self assembly org **film** particle arrangement; elec conductor insulator org **film** particle arrangement; display device self assembled **film** structure; photonic crystal self assembled **film** structure; electroluminescent panel self assembled **film** structure; DNA chip self assembled **film** structure; **optical** waveguide self assembled **film** structure; light energy converter self assembled **film** structure

IT **Films**  
(elec. conductive, organic **film** as; particle-arranged self-assembled organic **film** and its manufacture for electroluminescent device and other devices)

IT Electric conductors  
(**films**, organic **film** as; particle-arranged self-assembled organic **film** and its manufacture for electroluminescent device and other devices)

IT Dielectric **films**  
(organic **film** as; particle-arranged self-assembled organic **film** and its manufacture for electroluminescent device and other devices)

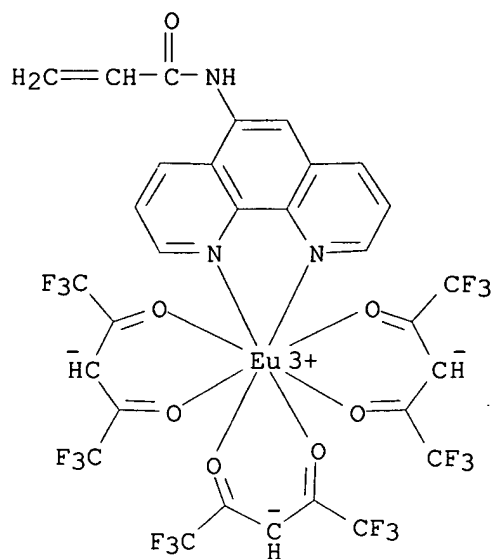
IT DNA microarray technology  
Electroluminescent devices  
**Optical** imaging devices  
**Optical** waveguides  
Photonic crystals  
Self-assembly  
(particle-arranged self-assembled organic **film** and its manufacture for electroluminescent device and other devices)

IT Dyes  
(particles containing; particle-arranged self-assembled organic **film** and its manufacture for electroluminescent device and other devices)

IT Phosphors  
(particles; particle-arranged self-assembled organic **film** and its manufacture for electroluminescent device and other devices)

IT Rare earth metals, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(phosphor particles containing; particle-arranged self-assembled organic **film** and its manufacture for electroluminescent device and other

devices)  
IT 519140-65-9P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(honeycomb **film**; particle-arranged self-assembled organic **film** and its manufacture for electroluminescent device and other devices)  
IT 258337-40-5  
RL: TEM (Technical or engineered material use); USES (Uses)  
(honeycomb **film**; particle-arranged self-assembled organic **film** and its manufacture for electroluminescent device and other devices)  
IT 321954-23-8P 519156-21-9P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(particle prepared from; particle-arranged self-assembled organic **film** and its manufacture for electroluminescent device and other devices)  
IT 814-68-6, Acryloyl chloride 1522-22-1 54258-41-2, 5-Amino-1,10-phenanthroline  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(particle prepared from; particle-arranged self-assembled organic **film** and its manufacture for electroluminescent device and other devices)  
IT 519156-22-0P 519156-23-1P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(particle; particle-arranged self-assembled organic **film** and its manufacture for electroluminescent device and other devices)  
IT 7631-86-9, Silica, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(particles; particle-arranged self-assembled organic **film** and its manufacture for electroluminescent device and other devices)  
IT 519156-22-0P 519156-23-1P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(particle; particle-arranged self-assembled organic **film** and its manufacture for electroluminescent device and other devices)  
RN 519156-22-0 HCAPLUS  
CN Europium, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato- $\kappa O, \kappa O'$ )[N-(1,10-phenanthroline-5-yl- $\kappa N1, \kappa N10$ )-2-propenamide]-, polymer with ethenylbenzene and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediyl), graft (9CI) (CA INDEX NAME)  
CM 1  
CRN 519156-21-9  
CMF C30 H14 Eu F18 N3 O7  
CCI CCS

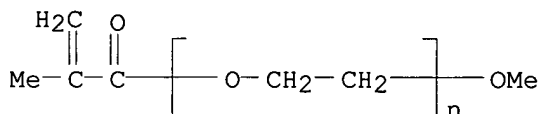


CM 2

CRN 26915-72-0

CMF (C2 H4 O)<sub>n</sub> C5 H8 O2

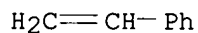
CCI PMS



CM 3

CRN 100-42-5

CMF C8 H8



RN 519156-23-1 HCAPLUS

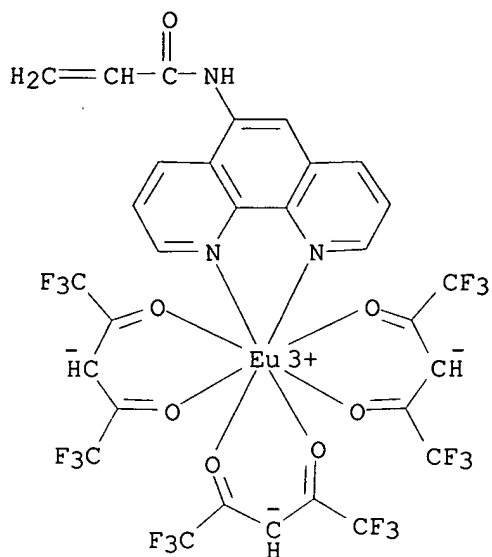
CN Europium, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato- $\kappa\text{O},\kappa\text{O}'$ )[N-(1,10-phenanthroline-5-yl- $\kappa\text{N}1,\kappa\text{N}10$ )-2-propenamide]-, polymer with ethenylbenzene and oxirane, graft (9CI) (CA INDEX NAME)

CM 1

CRN 519156-21-9

CMF C30 H14 Eu F18 N3 O7

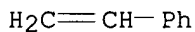
CCI CCS



CM 2

CRN 100-42-5

CMF C8 H8



CM 3

CRN 75-21-8

CMF C2 H4 O



L49 ANSWER 10 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2003:335210 HCAPLUS  
 DN 138:339793  
 TI Coating material compositions giving **cured films** with  
 low refractive index and articles coated therewith  
 IN Yamaki, Takeyuki; Yokogawa, Hiroshi; Takahama, Koichi; Yokoyama, Masaru;  
 Tsujimoto, Akira; Itou, Norihiro; Kawano, Kenji; Kishigami, Yasuhisa; Ide,  
 Nobuhiro  
 PA Matsushita Electric Works, Ltd., Japan  
 SO PCT Int. Appl., 48 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003035780	A1	20030501	WO 2002-JP10981	20021023
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	JP 2003202406	A2	20030718	JP 2002-72951	20020315
	EP 1447433	A1	20040818	EP 2002-770239	20021023
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	JP 2003201443	A2	20030718	JP 2002-311917	20021025
PRAI	JP 2001-327878	A	20011025		
	WO 2002-JP10981	W	20021023		
AB	Title composition comprises fine hollow particles and a matrix-forming material, wherein when the coating material composition is applied and dried to form a coating <b>film</b> having a low refractive index, the matrix-forming material forms a porous matrix. Thus, 208 parts tetraethoxysilane was polymerized to give a silicone resin with weight average mol. weight 850, 30 parts of which was mixed with 70 parts (solid base) 20%-solids hollow silica isopropanol dispersion, diluted with methanol to give 1%-solid coating material, which was applied on a glass with refractive index 1.54, dried, <b>heat</b> -treated under oxygen to give a coating <b>film</b> with total light transmittance 96.4%, reflection ratio 0.6%, haze 0.4%, refractive index 1.28, and good mech. strength.				
IC	ICM C09D183-00				
	ICS C09D007-12; G02B001-11				
CC	42-10 ( <b>Coatings</b> , Inks, and Related Products)				
	Section cross-reference(s): 38				
ST	coating material <b>cured film</b> compn article;				
	tetraethoxysilane homopolymer hollow silica coating compn				
IT	Glass, uses				
	RL: TEM (Technical or engineered material use); USES (Uses) (automobile; coating material compns. giving <b>cured films</b> with low refractive index for)				
IT	Construction materials				
	Electric lamps				
	Electroluminescent devices				
	<b>Optical</b> filters				
	<b>Optical</b> imaging devices				
	Plastic <b>films</b>				
	Prisms				
	Solar cells				
	(coating material compns. giving <b>cured films</b> with low refractive index for)				
IT	Coating materials				
	Lenses				
	<b>Optical</b> materials				
	(coating material compns. giving <b>cured films</b> with low refractive index for articles)				
IT	Silicates, uses				
	Silsesquioxanes				

Zirconoxanes

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(coating material compns. giving **cured films** with low refractive index for articles)

IT Electric conductors

(fillers; coating material compns. giving **cured films** with low refractive index for articles)

IT Fillers

(organic porous; coating material compns. giving **cured films** with low refractive index for articles)

IT Porous materials

(organic, fillers; coating material compns. giving **cured films** with low refractive index for articles)

IT Printed circuit boards

(touch panel; coating material compns. giving **cured films** with low refractive index for)

IT 11099-06-2P, Tetraethoxysilane homopolymer 25930-91-0P, Methyltriethoxysilane homopolymer **517900-46-8P**

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(coating material compns. giving **cured films** with low refractive index for articles)

IT 7631-86-9, MA-ST, uses

RL: MOA (Modifier or additive use); USES (Uses)

(hollow; coating material compns. giving **cured films** with low refractive index for articles)

IT **517900-46-8P**

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(coating material compns. giving **cured films** with low refractive index for articles)

RN 517900-46-8 HCAPLUS

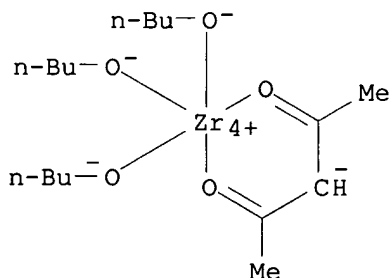
CN Zirconium, tributoxy(2,4-pentanedionato- $\kappa$ O, $\kappa$ O')-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 85626-36-4

CMF C17 H34 O5 Zr

CCI CCS



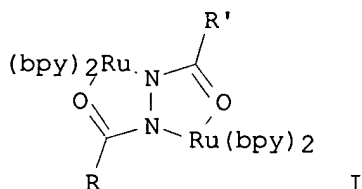
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

## ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 11 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2003:281866 HCAPLUS  
 DN 138:304708  
 TI Ruthenium complexes for organic electrochromic materials for  
**optical** attenuation in the near infrared region  
 IN Wang, Zhi Yuan  
 PA Twlinks Inc., Can.  
 SO U.S. Pat. Appl. Publ., 16 pp.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003066989	A1	20030410	US 2002-151891	20020522
	US 6815528	B2	20041109		
	CA 2348288	AA	20021124	CA 2001-2348288	20010524
PRAI	CA 2001-2348288	A	20010524		
GI	US 2001-292959P	P	20010524		



AB The title compds. comprise I, where R and R' are different organic substituents. The compds. are useful as organic electrochromic Near IR (NIR)-active materials capable of absorbing and attenuating the light in the NIR region around 1550 nm and forming thin **films** on electrodes for variable **optical** attenuator (VOA) applications. They have utility in planar VOA devices. Complexes which are dimers or trimers (sym. or unsym.) are disclosed, as are polymeric complexes. Crosslinked polymeric complex **films** are also disclosed.

IC ICM C08G018-00  
 ICS G03C001-00; G02B005-02; G02C007-10; F21V009-00; G03B011-00

NCL 252582000; 528044000

CC 35-4 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): **73**, **78**

ST ruthenium complex polymer electrochromic

IT Electrochromic materials  
 (ruthenium complexes for organic electrochromic materials for **optical** attenuation in the near IR region)

IT Polyurethanes, preparation  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (ruthenium complexes; ruthenium complexes for organic electrochromic materials for **optical** attenuation in the near IR region)

IT 195375-12-3P 195375-15-6P 195375-19-0P 439216-47-4P 485802-58-2P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(ligand; ruthenium complexes for organic electrochromic materials for  
**optical** attenuation in the near IR region)

IT 485830-81-7P 485830-83-9P 485830-85-1P 485830-87-3P 485830-89-5P  
485830-91-9P 485830-93-1P 485830-95-3P 485830-97-5P 485830-99-7P  
485831-01-4P 485831-03-6P 485831-05-8P 485831-07-0P 485831-09-2P  
485831-11-6P 485831-13-8P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)

(monomer; ruthenium complexes for organic electrochromic materials for  
**optical** attenuation in the near IR region)

IT 7440-18-8DP, Ruthenium, complexes with bipyridine and azodicarbonyl  
polymer ligands 26100-79-8P 27251-03-2DP, complexes with ruthenium  
bipyridine 27251-03-2P 27306-66-7P, Poly[hydrazo(1,6-dioxo-1,6-  
hexanediyl)] 28406-85-1P 30397-70-7P 30661-24-6P 32035-54-4P  
439217-50-2P 485802-59-3P 485802-60-6DP, complexes with ruthenium  
bipyridine 485802-60-6P 485802-61-7P 485831-15-0P 485831-17-2P  
485831-19-4P 485831-23-0P **485831-38-7P** 509094-96-6P

RL: IMF (Industrial manufacture); **PREP (Preparation)**

(ruthenium complexes for organic electrochromic materials for  
**optical** attenuation in the near IR region)

IT 6781-59-5P 6781-65-3P 14331-27-2P, 1-Acetyl-2-benzoylhydrazine  
21719-53-9P 54019-08-8P 67613-57-4P 92555-33-4P 119933-16-3P  
314283-32-4P 485802-50-4P 485802-57-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)

(ruthenium complexes for organic electrochromic materials for  
**optical** attenuation in the near IR region)

IT 75-36-5, Acetyl chloride 77-99-6D, Trimethylol propane, polyurethanes  
with isocyanates and ruthenium compds. 79-44-7 100-07-2,  
4-Methoxybenzoylchloride 110-78-1, n-Propylisocyanate 122-04-3  
407-25-0 613-94-5 1694-83-3 3290-99-1, 4-Methoxybenzoylhydrazine  
4422-95-1, 1,3,5-Benzenetricarbonyl trichloride 5351-23-5,  
p-Hydroxybenzoic hydrazide 15746-57-3, Bis(2,2'-  
bipyridine)dichlororuthenium 25854-16-4D, Xylylene diisocyanate,  
polyurethanes with polyols and ruthenium compds. 75396-47-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(ruthenium complexes for organic electrochromic materials for  
**optical** attenuation in the near IR region)

IT **485831-38-7P**

RL: IMF (Industrial manufacture); **PREP (Preparation)**

(ruthenium complexes for organic electrochromic materials for  
**optical** attenuation in the near IR region)

RN 485831-38-7 HCAPLUS

CN Ruthenium(6+), [ $\mu_6$ -[(1,3,5-benzenetricarboxylic acid-  
 $\kappa O_1:\kappa O_3:\kappa O_5$ ) tris[2-(4-hydroxybenzoyl-  
 $\kappa O$ )hydrazidato- $\kappa N:\kappa N'$ ]](6-)]dodecakis(2,2'-bipyridine-  
 $\kappa N_1,\kappa N_1'$ )hexa-, hexakis[hexafluorophosphate(1-)], polymer with  
bis(isocyanatomethyl)benzene and 2-ethyl-2-(hydroxymethyl)-1,3-propanediol  
(9CI) (CA INDEX NAME)

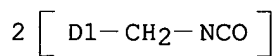
CM 1

CRN 25854-16-4

CMF C10 H8 N2 O2

CCI IDS

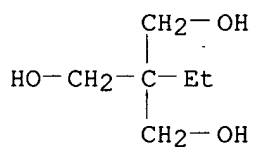




CM 2

CRN 77-99-6

CMF C6 H14 O3



CM 3

CRN 439217-50-2

CMF C150 H114 N30 O9 Ru6 . 6 F6 P

CM 4

CRN 439216-48-5

CMF C150 H114 N30 O9 Ru6

CCI CCS

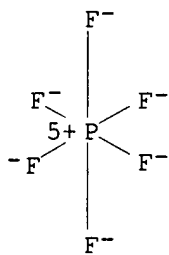
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 16919-18-9

CMF F6 P

CCI CCS



L49 ANSWER 12 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2003:42708 HCAPLUS  
 DN 138:114780  
 TI Electrochromic ruthenium complex polymers for **optical**  
 attenuation in the near infrared region  
 IN Wang, Zhi Yuan  
 PA Can.  
 SO U.S. Pat. Appl. Publ., 15 pp.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003010963	A1	20030116	US 2002-151889	20020522
	CA 2348288	AA	20021124	CA 2001-2348288	20010524
PRAI	CA 2001-2348288	A	20010524		
	US 2001-292959P	P	20010524		

AB The invention provides generally a new type of organic electrochromic Near IR (NIR)-active materials capable of absorbing and attenuating the light in the NIR region around 1550 nm and forming thin **films** on electrodes for variable **optical** attenuator (VOA) applications. They have utility in planar VOA devices. The materials are ruthenium complexes. Unsym. complexes having two different substituents are disclosed, where one substituent is more electron-donating than the other. Complexes which are dimers or trimers (sym. or unsym.) are disclosed, as well as are polymeric complexes. Crosslinked polymeric complex **films** are also disclosed.

IC ICM G03C001-00

NCL 252582000

CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 72

ST electrochromic ruthenium complex polymer **optical** attenuation near IR

IT **Optical** instruments

(attenuators, variable **optical** attenuator; electrochromic ruthenium complex polymers for **optical** attenuation in near IR region)

IT Electrochromic materials

(electrochromic ruthenium complex polymers for **optical** attenuation in near IR region)

IT Polyurethanes, properties

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (**film**; electrochromic ruthenium complex polymers for **optical** attenuation in near IR region)

IT Polyoxyalkylenes, reactions

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (polyamide-polyester-; preparation of electrochromic ruthenium complex polymers)

IT Polyesters, reactions

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (polyamide-polyoxyalkylene-; preparation of electrochromic ruthenium complex polymers)

IT Polyamides, reactions

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT

(Reactant or reagent)  
 (polyester-polyoxyalkylene-; preparation of electrochromic ruthenium complex polymers)

IT Polyureas  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (polyhydrazide-; preparation of electrochromic ruthenium complex polymers)

IT Polyhydrazides  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (polyurea-; preparation of electrochromic ruthenium complex polymers)

IT Polyamides, reactions  
 Polyhydrazides  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation of electrochromic ruthenium complex polymers)

IT 485843-47-8 485843-49-0 485843-51-4 485843-53-6 485843-55-8  
 485843-57-0 485843-59-2 485843-61-6 485843-63-8 485843-65-0  
 485843-67-2 485843-70-7 485843-72-9 485843-73-0 485843-74-1  
 485843-75-2 485843-76-3 485843-77-4 485843-78-5 485843-79-6  
 485843-81-0  
 RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); FORM (Formation, nonpreparative); PROC (Process)  
 (elec. potentials electrochromic ruthenium complex in acetonitrile)

IT 26100-79-8DP, complexes with ruthenium compds. 27251-03-2DP, complexes with ruthenium compds. 27306-66-7DP, Poly[hydrazo(1,6-dioxo-1,6-hexanediyl)], complexes with ruthenium compds. 28406-85-1DP, complexes with ruthenium compds. 30397-70-7DP, complexes with ruthenium compds. 30661-24-6DP, complexes with ruthenium compds. 32035-54-4DP, complexes with ruthenium compds. 439217-50-2P 485802-60-6DP, complexes with ruthenium compds. 485802-61-7DP, complexes with ruthenium compds. 485830-81-7P 485830-83-9P 485830-85-1P 485830-87-3P 485830-89-5P 485830-91-9P 485830-93-1P 485830-95-3P 485830-97-5P 485830-99-7P 485831-01-4P 485831-03-6P 485831-05-8P 485831-07-0P 485831-09-2P 485831-11-6P 485831-13-8P 485831-15-0P 485831-17-2P 485831-19-4P 485831-23-0P  
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)  
 (preparation of electrochromic ruthenium complex polymers)

IT 14331-27-2P, 1-Acetyl-2-benzoylhydrazine 195375-12-3P 195375-15-6P 195375-19-0P 439216-47-4P 485802-58-2P  
 RL: IMF (Industrial manufacture); PRP (Properties); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation of electrochromic ruthenium complex polymers)

IT 6781-59-5P 6781-65-3P 21719-53-9P 26100-79-8P 27251-03-2P 27306-66-7P, Poly[hydrazo(1,6-dioxo-1,6-hexanediyl)] 28406-85-1P 30397-70-7P 30661-24-6P 32035-54-4P 54019-08-8P 92555-33-4P 119933-16-3P 314283-32-4P 485802-50-4P 485802-57-1P 485802-59-3P 485802-60-6P 485802-61-7P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation of electrochromic ruthenium complex polymers)

IT 485831-28-5 485831-31-0 485831-33-2 485831-37-6  
 RL: PRP (Properties)  
 (preparation of electrochromic ruthenium complex polymers)

IT 100-07-2, 4-Methoxybenzoylchloride 110-78-1, n-Propyl isocyanate 122-04-3, 4-Nitrobenzoyl chloride 407-25-0, Trifluoroacetic anhydride 613-94-5 1694-83-3 3290-99-1, 4-Methoxybenzoylhydrazine 4422-95-1, 1,3,5-Benzenetricarbonyl trichloride 5351-23-5, p-Hydroxybenzoic

hydrazide 16941-11-0, Ammonium hexafluorophosphate 19542-80-4  
67613-57-4 75396-47-3

RL: RCT (Reactant); RACT (Reactant or reagent) .  
(preparation of electrochromic ruthenium complex polymers)

IT 485831-38-7P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or  
engineered material use); **PREP (Preparation)**; USES (Uses)  
(preparation of electrochromic ruthenium complex polymers **film**)

IT 485831-38-7P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or  
engineered material use); **PREP (Preparation)**; USES (Uses)  
(preparation of electrochromic ruthenium complex polymers **film**)

RN 485831-38-7 HCAPLUS

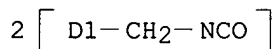
CN Ruthenium(6+), [ $\mu_6$ -[[[(1,3,5-benzenetricarboxylic acid-  
 $\kappa O_1:\kappa O_3:\kappa O_5$ ) tris[2-(4-hydroxybenzoyl-  
 $\kappa O$ )hydrazidato- $\kappa N:\kappa N'$ ]](6-))]dodecakis(2,2'-bipyridine-  
 $\kappa N_1,\kappa N_1'$ )hexa-, hexakis[hexafluorophosphate(1-)], polymer with  
bis(isocyanatomethyl)benzene and 2-ethyl-2-(hydroxymethyl)-1,3-propanediol  
(9CI) (CA INDEX NAME)

CM 1

CRN 25854-16-4

CMF C10 H8 N2 O2

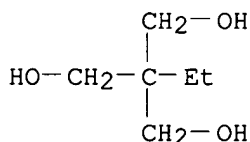
CCI IDS



CM 2

CRN 77-99-6

CMF C6 H14 O3



CM 3

CRN 439217-50-2

CMF C150 H114 N30 O9 Ru6 . 6 F6 P

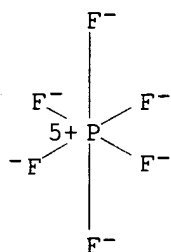
CM 4

CRN 439216-48-5  
CMF C150 H114 N30 O9 Ru6  
CCI CCS

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 16919-18-9  
CMF F6 P  
CCI CCS



L49 ANSWER 13 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2002:955518 HCAPLUS  
DN 138:40785  
TI Method and compositions for forming silica-like insulation **films**  
with low dielectric constant and good resistance to barrier metal  
IN Hayashi, Eiji; Yoshioka, Mutsuhiko; Shiota, Atsushi; Yamada, Kinji  
PA JSR Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 19 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002363490	A2	20021218	JP 2001-175602	20010611
PRAI	JP 2001-175602		20010611		

OS MARPAT 138:40785

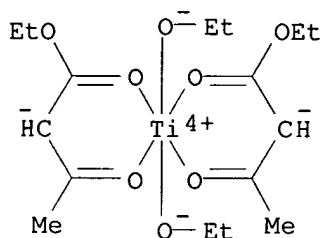
AB The comps. useful for forming dielec. **films** with good adhesion to Cu migration-inhibiting barrier metals on semiconductor devices by the spin-on-glass method, contain (A) an organo-alkoxysilane compound, a silicon tetraalkoxide or/and dialkoxysilyl compound  $R_1a(R_2O)_3-aSiX_nSi(OR_3)_3-bR_4b$  ( $R_1-4$  = monovalent organic groups;  $a, b = 0-2$ ;  $X = O$ , phenylene,  $C_1-6$  alkylene;  $n = 0, 1$ ) or their hydrolytic condensates, (B) organic solvent, and (C) the hydrolytic condensation products of the alkoxides of Ti, Zr, Al, Ta and B or the chelates of Ti, Zr, Al, Ta and B as the additives for improving the adhesion of coat **films** to barrier metals. Thus, mixing methyltrimethoxysilane 77.04 with tetramethoxysilane 24.05 and tetrakis(acetylacetonate) 0.48 in propylene glycol monopropyl ether 290 to 60°, adding water 84 to the resulting mixture, reacting for 2 h, mixing with acetone 25 for 30 min, evaporating to remove 149 g a distillate containing MeOH and H<sub>2</sub>O at 50° gave a reaction solution (S1) containing a condensation product with Mw 8900. Sep., mixing diethoxybis(ethylacetylacetonato)titanium 100 in propylene glycol

monopropyl ether 800 with water 100 for 1 h, **heating** at 40° for 1 h and evaporating to remove volatile fraction 200 g gave a condensation product solution (S2). Mixing 50 g S1 with 3 g S2, filtering and spin coating the filtrate on the surface of a Si wafer gave a dielec. **film** with dielec. constant 2.79 and showing good adhesion to TaN layer.

- IC ICM C09D183-02  
ICS B32B027-00; C09D005-25; C09D183-04; C09D183-14; C09D185-00;  
H01L021-312; H01L021-316
- CC 42-10 (**Coatings**, Inks, and Related Products)  
Section cross-reference(s): 76
- ST spin on glass dielec **film** forming low k alkoxysilane; chelate  
alkoxide alkoxysilane low k spin on glass **film**; semiconductor  
device dielec **film** low k silicon tetraalkoxide alkoxysilane
- IT Dielectric **films**  
Semiconductor devices  
(method and compns. for forming silica-like insulation **films**  
with low dielec. constant and good resistance to barrier metal)
- IT Chelates  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(polymers; method and compns. for forming silica-like insulation  
**films** with low dielec. constant and good resistance to barrier  
metal)
- IT Silsesquioxanes  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(silicate-; method and compns. for forming silica-like insulation  
**films** with low dielec. constant and good resistance to barrier  
metal)
- IT Silicates, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(silsesquioxane-; method and compns. for forming silica-like insulation  
**films** with low dielec. constant and good resistance to barrier  
metal)
- IT 16761-83-4P 141087-43-6P, Methyltrimethoxysilane-tetraethoxysilane  
copolymer 158845-79-5P 159873-52-6P, Methyltrimethoxysilane-  
tetramethoxysilane copolymer **478921-83-4P 478921-84-5P**  
478921-87-8P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(method and compns. for forming silica-like insulation **films**  
with low dielec. constant and good resistance to barrier metal)
- IT **478921-83-4P 478921-84-5P**  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(method and compns. for forming silica-like insulation **films**  
with low dielec. constant and good resistance to barrier metal)
- RN 478921-83-4 HCAPLUS
- CN Titanium, diethoxybis[ethyl 3-(oxo-κO)butanoato-κO']-,  
homopolymer (9CI) (CA INDEX NAME)

CM 1

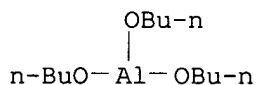
CRN 29962-18-3  
CMF C16 H28 O8 Ti  
CCI CCS



RN 478921-84-5 HCAPLUS  
CN Aluminum, tributoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 13245-73-3  
CMF C12 H27 Al O3



L49 ANSWER 14 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2001:919101 HCAPLUS  
DN 136:61586  
TI Liquid crystal display cell and manufacture of the cell  
IN Yoshida, Nobuaki; Hirai, Toshiharu; Komatsu, Michio  
PA Catalysts and Chemicals Industries Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 11 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001350139	A2	20011221	JP 2000-166677	20000602
PRAI	JP 2000-166677		20000602		

AB The cell has a substrate successively laminated with a transparent electrode, a transparent protective **film** on the electrode, and a crystal-alignment **film** wherein the protective **film** contains elec. conductive fine particles with volume resistivity 103-1012  $\Omega$ -cm. The cell is manufactured by the process involving applying of a solution containing a matrix precursor and the above fine particles on the surface of the transparent electrode and **curing** of the solution. Adhesion between the electrode **film** and the alignment **film** is enhanced and elec. charging of the alignment **film** is avoided in rubbing.

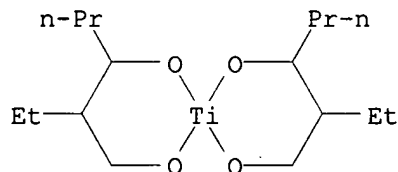
IC ICM G02F001-1333  
ICS G02F001-1343

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 42, 76  
 ST liq crystal display cell electrode **film**; transparent elec  
 conductive **film** conductor particle; charging prevention  
 alignment **film** display cell  
 IT Coating materials  
 (elec. conductive, transparent; liquid crystal display cell having  
 transparent protective layer containing elec. conductive particle on  
 transparent electrode)  
 IT Electric conductors  
 Liquid crystal displays  
 (liquid crystal display cell having transparent protective layer containing  
 elec. conductive particle on transparent electrode)  
 IT Electrodes  
 (transparent; liquid crystal display cell having transparent protective  
 layer containing elec. conductive particle on transparent electrode)  
 IT 86350-02-9P, Ethyl silicate- $\gamma$ -glycidoxypolytrimethoxysilane  
 copolymer **380907-96-0P 381234-17-9P**,  
 Diisopropoxydiethoxytitanium-ethyl silicate-  
 tributoxymonoacetylacetonatozirconium copolymer  
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP  
 (Preparation); USES (Uses)  
 (coating; liquid crystal display cell having transparent protective layer  
 containing elec. conductive particle on transparent electrode)  
 IT 50926-11-9, ITO  
 RL: DEV (Device component use); USES (Uses)  
 (electrode; liquid crystal display cell having transparent protective  
 layer containing elec. conductive particle on transparent electrode)  
 IT 1314-60-9, Antimony oxide (Sb<sub>2</sub>O<sub>5</sub>)  
 RL: DEV (Device component use); USES (Uses)  
 (particles; liquid crystal display cell having transparent protective  
 layer containing elec. conductive particle on transparent electrode)  
 IT **380907-96-0P 381234-17-9P**, Diisopropoxydiethoxytitanium  
 m-ethyl silicate-tributoxymonoacetylacetonatozirconium copolymer  
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP  
 (Preparation); USES (Uses)  
 (coating; liquid crystal display cell having transparent protective layer  
 containing elec. conductive particle on transparent electrode)  
 RN 380907-96-0 HCAPLUS  
 CN Titanium, bis[2-ethyl-1,3-hexanediolato(2-)- $\kappa$ O, $\kappa$ O']-, (T-4)-,  
 polymer with silicic acid ethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 51382-55-9

CMF C16 H32 O4 Ti



CM 2



```
CRN 11099-06-2
CMF C2 H6 O . x Unspecified
```

CM 3

CRN 1343-98-2  
CMF Unspecified  
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 4

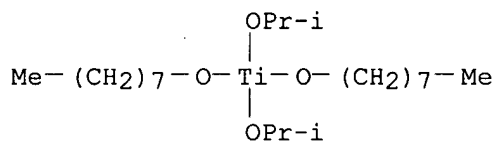
CRN 64-17-5  
CMF C2 H6 O

$$\text{H}_3\text{C}-\text{CH}_2-\text{OH}$$

RN	381234-17-9	HCAPLUS
CN	Zirconium, tributoxy(2,4-pentanedionato-κO,κO')-, polymer with (T-4)-bis(octyloxy)bis(2-propanolato)titanium and silicic acid ethyl ester (9CI) (CA INDEX NAME)	

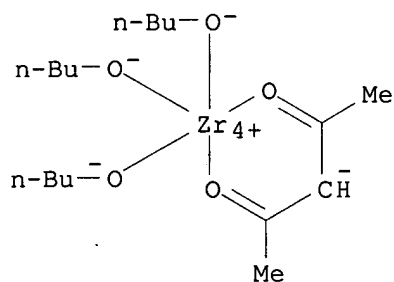
CM 1

CRN 152135-68-7  
CMF C22 H48 O4 Ti



CM 2

CRN 85626-36-4  
CMF C17 H34 O5 Zr  
CCI CCS



CM 3

CRN 11099-06-2  
CMF C2 H6 O . x Unspecified

CM 4

CRN 1343-98-2  
CMF Unspecified  
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 64-17-5  
CMF C2 H6 O

H<sub>3</sub>C-CH<sub>2</sub>-OH

L49 ANSWER 15 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2001:873322 HCAPLUS  
DN 136:7819

TI **Film-forming compositions, the film formation and**  
plasma-resistant silica **films** therefrom

IN Nishikawa, Michinori; Yamada, Kinji

PA Jsr Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001335745	A2	20011204	JP 2000-157640	20000529
PRAI	JP 2000-157640		20000529		
OS	MARPAT 136:7819				

AB Title compns., useful for semiconductor materials, comprise organic solvents and hydrolyzates prepared from (A1) RaSi(OR1)4-a (R = H, F or hydrocarbyl; R1 = hydrocarbyl; a = 1-2), Si(OR2)4 (R2 = hydrocarbyl), and/or R3b(OR4)3-bSiR7dSi(OR5)3-cR6c [R3-R6 = hydrocarbyl; R7 = O, phenylene, (CH2)n; b,c = 0-2; d = 0-1; n = 1-6] and (A2) R8M(OR9)f-e (R8 = chelating agent; R9 = alkyl or aryl; M = metal atom; f = valence no of M; e = 0-f integer). A Si wafer was spin coated with a composition containing propylene glycol mono-Et ether and MeSi(OMe)3-Si(OMe)4-tetrakis(acetylacetonato) Ti copolymer (prepared in presence of maleic acid) and baked at 400° for 25 min to form a SiO<sub>2</sub> **film** with dielec. constant 2.78, O plasma resistance (200 W, 20 s, thickness change <20 nm), and crack resistance after pressure cooker test.

IC ICM C09D183-00

ICS C08G077-58; C09D183-14; C09D185-00; H01L021-312; H01L021-316

CC 42-10 (**Coatings, Inks, and Related Products**)

Section cross-reference(s): 76

ST siloxane metalloxane precursor silica **film**; titanate

silsesquioxane precursor silica **film**; crack resistance silica

- elec insulating **film**; plasma resistance silica elec insulating **film**
- IT Electric insulators  
(**coatings**; metalloxane-siloxane compns. for elec. insulating SiO2 **films** with crack and plasma resistance)
- IT Glycols, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(ethers; metalloxane-siloxane compns. for elec. insulating SiO2 **films** with crack and plasma resistance)
- IT Ethers, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(glycol; metalloxane-siloxane compns. for elec. insulating SiO2 **films** with crack and plasma resistance)
- IT Polymerization catalysts  
Semiconductor materials  
(metalloxane-siloxane compns. for elec. insulating SiO2 **films** with crack and plasma resistance)
- IT Acids, uses  
Amines, uses  
Bases, uses  
Carboxylic acids, uses  
RL: CAT (Catalyst use); USES (Uses)  
(metalloxane-siloxane compns. for elec. insulating SiO2 **films** with crack and plasma resistance)
- IT Titanoxanes  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(silsesquioxane-, Si Ti **oxide film** precursor;  
**metalloxane**-siloxane compns. for elec. insulating SiO2 **films** with crack and plasma resistance)
- IT Silsesquioxanes  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(titanates-, Si Ti **oxide film** precursor;  
**metalloxane**-siloxane compns. for elec. insulating SiO2 **films** with crack and plasma resistance)
- IT Silsesquioxanes  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(titanoxane-, Si Ti **oxide film** precursor;  
**metalloxane**-siloxane compns. for elec. insulating SiO2 **films** with crack and plasma resistance)
- IT **376368-90-0P**, Methyltrimethoxysilane-tetramethoxysilane-tetrakis(acetylacetonato) titanium copolymer **376368-92-2P**, Methyltrimethoxysilane-tetramethoxysilane-titanium tetraisopropoxide copolymer **376368-93-3P**, Methyltrimethoxysilane-tetraethoxysilane-tetrakis(acetylacetonato) titanium copolymer  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent); USES (Uses)  
(Si Ti **oxide film** precursor; **metalloxane**-siloxane compns. for elec. insulating SiO2 **films** with crack and plasma resistance)
- IT 110-16-7, Maleic acid, uses 124-40-3, Dimethylamine, uses  
RL: CAT (Catalyst use); USES (Uses)  
(metalloxane-siloxane compns. for elec. insulating SiO2 **films** with crack and plasma resistance)
- IT 52337-09-4P, Silicon titanium **oxide**  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or

engineered material use); PREP (Preparation); USES (Uses)  
 (metalloxane-siloxane compns. for elec. insulating SiO<sub>2</sub>  
 films with crack and plasma resistance)

IT 30136-13-1, Propylene glycol monopropyl ether 52125-53-8, Propylene glycol monoethyl ether

RL: NUU (Other use, unclassified); USES (Uses)  
 (metalloxane-siloxane compns. for elec. insulating SiO<sub>2</sub> films  
 with crack and plasma resistance)

IT 376368-90-0P, Methyltrimethoxysilane-tetramethoxysilane-  
 tetrakis(acetylacetonato) titanium copolymer 376368-93-3P,  
 Methyltrimethoxysilane-tetraethoxysilane-tetrakis(acetylacetonato)  
 titanium copolymer

RL: IMF (Industrial manufacture); POF (Polymer in formulation); RCT  
 (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES  
 (Uses)

(Si Ti oxide film precursor; metalloxane  
 -siloxane compns. for elec. insulating SiO<sub>2</sub> films with crack  
 and plasma resistance)

RN 376368-90-0 HCAPLUS

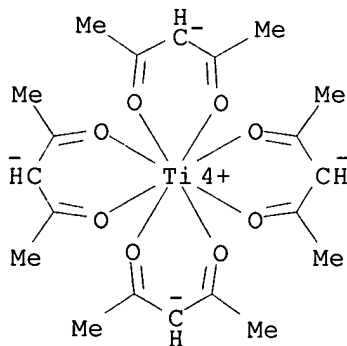
CN Titanium, tetrakis(2,4-pentanedionato-κO,κO')-, polymer with  
 silicic acid (H<sub>4</sub>SiO<sub>4</sub>) tetramethyl ester and trimethoxymethylsilane (9CI)  
 (CA INDEX NAME)

CM 1

CRN 17501-79-0

CMF C20 H28 O8 Ti

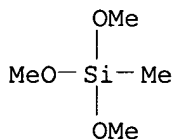
CCI CCS



CM 2

CRN 1185-55-3

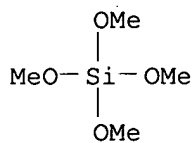
CMF C4 H12 O3 Si



CM 3

CRN 681-84-5

CMF C4 H12 O4 Si



RN 376368-93-3 HCAPLUS

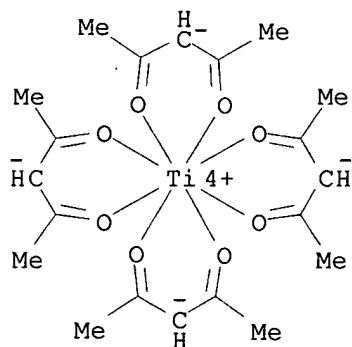
CN Titanium, tetrakis(2,4-pentanedionato- $\kappa\text{O},\kappa\text{O}'$ )-, polymer with silicic acid ( $\text{H}_4\text{SiO}_4$ ) tetraethyl ester and trimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 17501-79-0

CMF C20 H28 O8 Ti

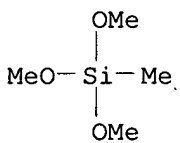
CCI CCS



CM 2

CRN 1185-55-3

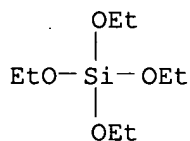
CMF C4 H12 O3 Si



CM 3

CRN 78-10-4

CMF C8 H20 O4 Si



L49 ANSWER 16 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:573287 HCAPLUS

DN 135:160202

TI Near-infrared-absorbing composition containing (meth)acrylic sulfonate and near-infrared filter made of the composition

IN Hasegawa, Satoshi; Masuda, Akira

PA Nisshin Spinning Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001213918	A2	20010807	JP 2000-27032	20000204
	US 2001011719	A1	20010809	US 2001-769338	20010126
	US 6592784	B2	20030715		
PRAI	JP 2000-27032	A	20000204		

OS MARPAT 135:160202

AB The composition contains (a) R(CH<sub>2</sub>)<sub>n</sub>SO<sub>3</sub>H (I; R = CH<sub>2</sub>:CHCO<sub>2</sub>, CH<sub>2</sub>:CHMeCO<sub>2</sub>; n = 1-8), other (meth)acrylic compound, and Cu<sup>2+</sup> or (b) claimed[R(CH<sub>2</sub>)<sub>n</sub>SO<sub>3</sub>]<sub>2</sub>Cu<sup>2+</sup> (II; R are same in I) and other (meth)acrylic compound

The near-IR-absorbing filter is that containing II. An acrylic resin board prepared by thermal polymerization of the composition, a near-IR-absorbing filter made

of the board, a near-IR-absorbing **film** prepared by polymerization of the composition under UV irradiation are also claimed. The filter, suitable for a plasma display panel, shows retention of visible light transmittance, whereas conventional filter containing near-IR-absorbing dye shows reduction of the transmittance, and is prepared by the process without using toxic P compds., etc., required in conventional process using Cu organic acid salts instead.

IC ICM C08F220-12

ICS C08F002-44; G02B005-22; C08F220-12; C08F220-38

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 37, 38, 73

ST near IR absorbing copper resin compn; filter near IR absorbing copper compn; acrylic methacrylic sulfonate copper **optical** filter; plasma display panel near IR filterIT Plastic **films**

((meth)acrylic sulfonate composition containing cupric ion for near-IR-absorbing **film**)

IT Plasma display panels

((meth)acrylic sulfonate composition containing cupric ion for near-IR-absorbing filter for)

IT **Optical filters**  
 (near-IR; (meth)acrylic sulfonate composition containing cupric ion for  
 near-IR-absorbing filter)

IT Polymerization  
 (photopolymn., UV; of (meth)acrylic sulfonate composition containing cupric  
 ion  
 for near-IR-absorbing filter)

IT Polymerization  
 (thermal; of (meth)acrylic sulfonate composition containing cupric ion for  
 near-IR-absorbing filter)

IT 352351-38-3P 352351-39-4P **352352-15-9P**  
 RL: DEV (Device component use); IMF (Industrial manufacture); **PREP**  
**(Preparation)**; USES (Uses)  
 ((meth)acrylic sulfonate composition containing cupric ion for  
 near-IR-absorbing  
 filter)

IT 352352-14-8P  
 RL: DEV (Device component use); IMF (Industrial manufacture); **PREP**  
 (Preparation); USES (Uses)  
 (composition containing cupric ion for near-IR-absorbing filter)

IT 142-71-2, Copper acetate 10595-80-9, 2-Sulfoethyl methacrylate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (for composition containing cupric ion for near-IR-absorbing filter)

IT 31098-21-2, Potassium 3-sulfopropyl methacrylate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (monomer from; for (meth)acrylic sulfonate composition containing cupric  
 ion for  
 near-IR-absorbing filter)

IT 352351-37-2P  
 RL: IMF (Industrial manufacture); RCT (Reactant); **PREP** (Preparation); RACT  
 (Reactant or reagent)  
 (monomer; in (meth)acrylic sulfonate composition containing cupric ion for  
 near-IR-absorbing filter)

IT **352352-15-9P**  
 RL: DEV (Device component use); IMF (Industrial manufacture); **PREP**  
**(Preparation)**; USES (Uses)  
 ((meth)acrylic sulfonate composition containing cupric ion for  
 near-IR-absorbing  
 filter)

RN 352352-15-9 HCAPLUS

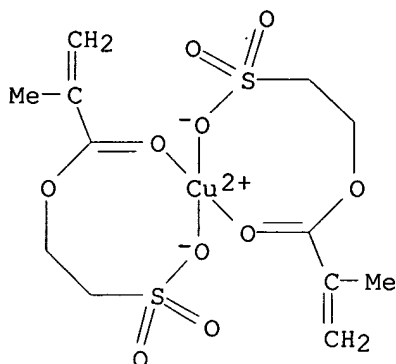
CN Copper, bis[2-(sulfonato-κO)ethyl 2-methyl-2-propenoato-O']-,  
 polymer with Aronix M 6200 and 2-hydroxyethyl 2-propenoate (9CI) (CA  
 INDEX NAME)

CM 1

CRN 352352-14-8

CMF C12 H18 Cu O10 S2

CCI CCS



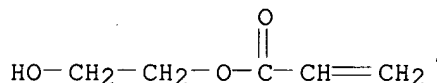
CM 2

CRN 88922-69-4  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 3

CRN 818-61-1  
CMF C5 H8 O3



L49 ANSWER 17 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:174228 HCAPLUS

DN 134:224083

TI Silicon-modified acrylic **coating** compositions with good workability, storage stability, resistance to weather, alkali and scratch

IN Suganuma, Takeshi

PA Yamaha Living Tech K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001064570	A2	20010313	JP 1999-238659	19990825
PRAI	JP 1999-238659		19990825		

OS MARPAT 134:224083

AB The comps. comprise: (A) an acrylic resin having silyl-containing pendants with alkoxy or halogen atoms, (B) a silicon-containing compound represented by

a

general formula:  $R_1aSiCl_b(OH)_c(OR_2)_d$  or its polycondensate (wherein  $R_1=C1-8$  hydrocarbyl with amino or carboxyl,  $R_2=C1-8$  hydrocarbyl with



alkoxy, a=0-3, b=0-2, c=0-3, d=0-4 and a+b+c+d=4), (C) zirconium, titanium or aluminum compds. dissolvable or dispersible in organic solvents and a hardening catalyst. Thus, polymerizing Bu methacrylate 3.2, trimethoxysilylpropyl methacrylate 1.24 and glycidyl methacrylate 3.2 in the presence of  $\gamma$ -mercaptopropyltrimethoxysilane 0.784 in MePh 11.46 parts using AIBN as catalyst at 70° for 2 h gave an A with Mw 1000, 29 parts of which was mixed with 70 parts B (preparation given, consisting of methyltrimethoxysilane 100, tetraethoxysilane 20 and dimethyldimethoxysilane 30 parts) and 1 part zirconium tetrabutoxide to give a title composition

IC ICM C09D133-04

ICS C09D143-04; C09D183-04

CC 42-7 (**Coatings**, Inks, and Related Products)

ST trimethoxysilylpropyl methacrylate alkoxysilyl contg acrylic **coating** compn; methyltrimethoxysilane silicon modified acrylic **coating** compn; tetraethoxysilane silicon modified acrylic **coating** compn; dimethyldimethoxysilane silicon modified acrylic **coating** compn; zirconium tetrabutoxide acrylic **coating** compn

IT Polysiloxanes, uses

Silsesquioxanes

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(acrylic, **metal oxide**-containing; silicon-modified acrylic **coating** compns. with good workability and storage stability)

IT **Coating** materials

(alkali-resistant; silicon-modified acrylic **coating** compns. with good workability and storage stability)

IT **Coating** materials

(scratch- and weather-resistant; silicon-modified acrylic **coating** compns. with good workability and storage stability)

IT Hybrid organic-inorganic materials

(silicon-modified acrylic **coating** compns. with good workability and storage stability)

IT **Coating** materials

(storage-stable; silicon-modified acrylic **coating** compns. with good workability and storage stability)

IT 4420-74-0,  $\gamma$ -Mercaptopropyltrimethoxysilane

RL: RCT (Reactant); RACT (Reactant or reagent)

(chain transfer agent; silicon-modified acrylic **coating** compns. with good workability and storage stability)

IT 329695-83-2P, Butyl methacrylate-dimethyldimethoxysilane-glycidyl

methacrylate-methyltrimethoxysilane-tetraethoxysilane-3-

(trimethoxysilyl)propyl methacrylate-zirconium tetrabutoxide copolymer

329695-84-3P, Butyl methacrylate-dimethyldimethoxysilane-glycidyl

methacrylate-methyltrimethoxysilane-tetraethoxysilane-3-

(trimethoxysilyl)propyl methacrylate-titanium tetraisopropoxide copolymer

329695-85-4P, Aluminum tri-sec-butoxide-butyl methacrylate-

dimethyldimethoxysilane-glycidyl methacrylate-methyltrimethoxysilane-

tetraethoxysilane-3-(trimethoxysilyl)propyl methacrylate copolymer

**329695-87-6P**, Butyl methacrylate-dimethyldimethoxysilane-glycidyl

methacrylate-methyltrimethoxysilane-tetraethoxysilane-3-

(trimethoxysilyl)propyl methacrylate-zirconium dibutoxybisacetylacetonate

copolymer **329695-89-8P**, Butyl methacrylate-

dimethyldimethoxysilane-glycidyl methacrylate-methyltrimethoxysilane-

tetraethoxysilane-3-(trimethoxysilyl)propyl methacrylate-

tetrakis(acetylacetonato)titanium copolymer **329695-91-2P**

329695-93-4P 329695-94-5P 329695-96-7P  
329695-97-8P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); **PREP** (**Preparation**); USES (Uses)

(silicon-modified acrylic **coating** compns. with good workability and storage stability)

IT 329695-87-6P, Butyl methacrylate-dimethyldimethoxysilane-glycidyl methacrylate-methyltrimethoxysilane-tetraethoxysilane-3-(trimethoxysilyl)propyl methacrylate-zirconium dibutoxybisacetylacetonate copolymer 329695-89-8P, Butyl methacrylate-dimethyldimethoxysilane-glycidyl methacrylate-methyltrimethoxysilane-tetraethoxysilane-3-(trimethoxysilyl)propyl methacrylate-tetrakis(acetylacetonato)titanium copolymer 329695-91-2P

329695-93-4P 329695-94-5P 329695-97-8P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); **PREP** (**Preparation**); USES (Uses)

(silicon-modified acrylic **coating** compns. with good workability and storage stability)

RN 329695-87-6 HCAPLUS

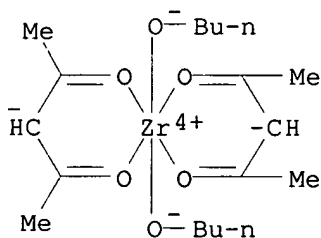
CN Zirconium, dibutoxybis(2,4-pentanedionato-κO,κO')-, polymer with butyl 2-methyl-2-propenoate, dimethoxydimethylsilane, oxiranylmethyl 2-methyl-2-propenoate, silicic acid (H<sub>4</sub>SiO<sub>4</sub>) tetraethyl ester, trimethoxymethylsilane and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 62905-51-5

CMF C18 H32 O6 Zr

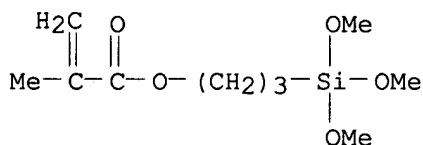
CCI CCS



CM 2

CRN 2530-85-0

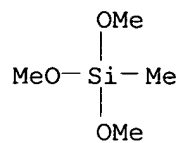
CMF C10 H20 O5 Si



CM 3

CRN 1185-55-3

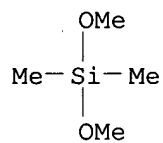
CMF C4 H12 O3 Si



CM 4

CRN 1112-39-6

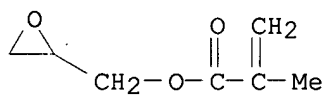
CMF C4 H12 O2 Si



CM 5

CRN 106-91-2

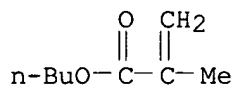
CMF C7 H10 O3



CM 6

CRN 97-88-1

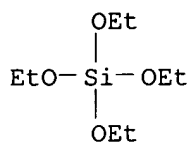
CMF C8 H14 O2



CM 7

CRN 78-10-4

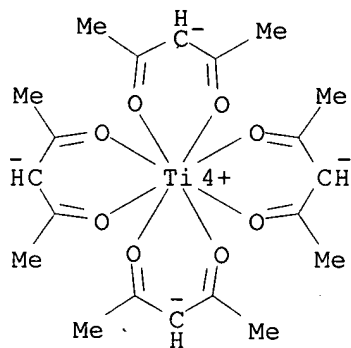
CMF C8 H20 O4 Si



RN 329695-89-8 HCAPLUS  
 CN Titanium, tetrakis(2,4-pentanedionato- $\kappa\text{O},\kappa\text{O}'$ )-, polymer with  
 butyl 2-methyl-2-propenoate, dimethoxydimethylsilane, oxiranylmethyl  
 2-methyl-2-propenoate, silicic acid ( $\text{H}_4\text{SiO}_4$ ) tetraethyl ester,  
 trimethoxymethylsilane and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate  
 (9CI) (CA INDEX NAME)

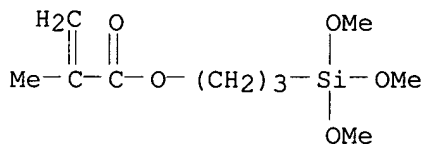
CM 1

CRN 17501-79-0  
 CMF C20 H28 O8 Ti  
 CCI CCS



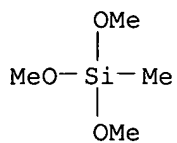
CM 2

CRN 2530-85-0  
 CMF C10 H20 O5 Si



CM 3

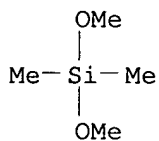
CRN 1185-55-3  
 CMF C4 H12 O3 Si



CM 4

CRN 1112-39-6

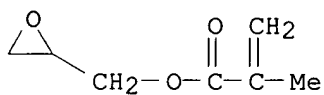
CMF C4 H12 O2 Si



CM 5

CRN 106-91-2

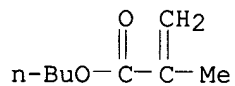
CMF C7 H10 O3



CM 6

CRN 97-88-1

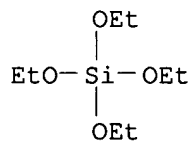
CMF C8 H14 O2



CM 7

CRN 78-10-4

CMF C8 H20 O4 Si



RN 329695-91-2 HCAPLUS

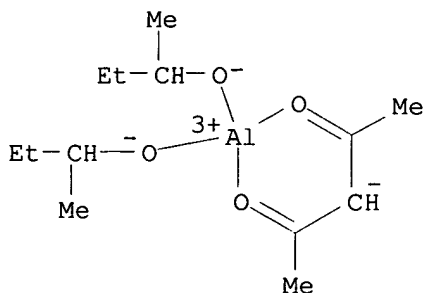
CN Aluminum, bis(2-butanolato)(2,4-pentanedionato- $\kappa$ O, $\kappa$ O')-,  
(T-4)-, polymer with butyl 2-methyl-2-propenoate, dimethoxydimethylsilane,  
oxiranylmethyl 2-methyl-2-propenoate, silicic acid (H<sub>4</sub>SiO<sub>4</sub>) tetraethyl  
ester, trimethoxymethylsilane and 3-(trimethoxysilyl)propyl  
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 98584-81-7

CMF C13 H25 Al O4

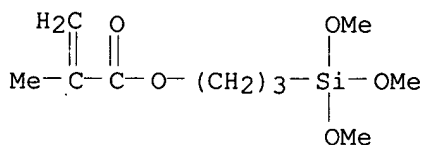
CCI CCS



CM 2

CRN 2530-85-0

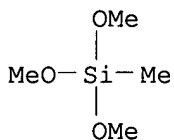
CMF C10 H20 O5 Si



CM 3

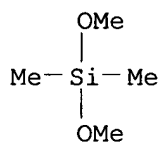
CRN 1185-55-3

CMF C4 H12 O3 Si



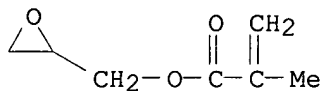
CM 4

CRN 1112-39-6  
CMF C4 H12 O2 Si



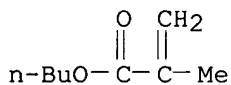
CM 5

CRN 106-91-2  
CMF C7 H10 O3



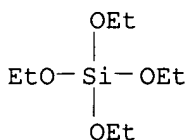
CM 6

CRN 97-88-1  
CMF C8 H14 O2



CM 7

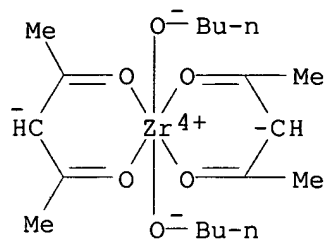
CRN 78-10-4  
CMF C8 H20 O4 Si



RN 329695-93-4 HCAPLUS  
CN Zirconium, dibutoxybis(2,4-pentanedionato- $\kappa\text{O},\kappa\text{O}'$ )-, polymer  
with butyl 2-methyl-2-propenoate, dimethoxydimethylsilane, oxiranylmethyl  
2-methyl-2-propenoate, silicic acid (H<sub>4</sub>SiO<sub>4</sub>) tetraethyl ester,  
tetrakis(2,4-pentanedionato- $\kappa\text{O},\kappa\text{O}'$ )titanium,  
trimethoxymethylsilane and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate  
(9CI) (CA INDEX NAME)

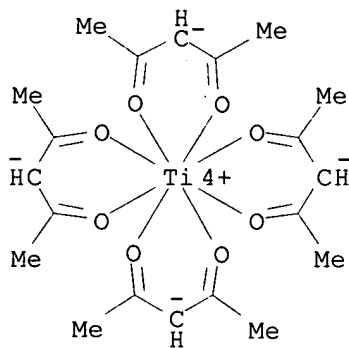
CM 1

CRN 62905-51-5  
 CMF C18 H32 O6 Zr  
 CCI CCS



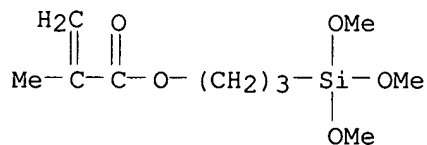
CM 2

CRN 17501-79-0  
 CMF C20 H28 O8 Ti  
 CCI CCS



CM 3

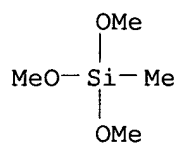
CRN 2530-85-0  
 CMF C10 H20 O5 Si



CM 4

CRN 1185-55-3  
 CMF C4 H12 O3 Si

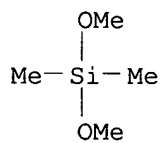




CM 5

CRN 1112-39-6

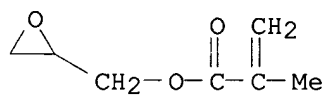
CMF C4 H12 O2 Si



CM 6

CRN 106-91-2

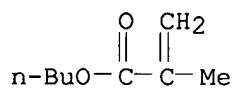
CMF C7 H10 O3



CM 7

CRN 97-88-1

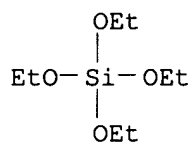
CMF C8 H14 O2



CM 8

CRN 78-10-4

CMF C8 H20 O4 Si



RN 329695-94-5 HCAPLUS

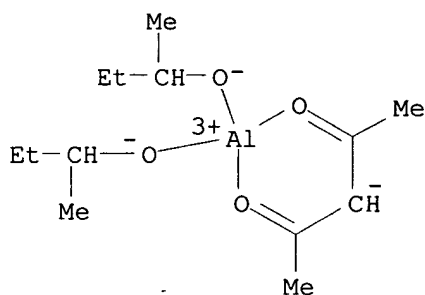
CN Zirconium, dibutoxybis(2,4-pentanedionato- $\kappa$ O, $\kappa$ O')-, polymer with (T-4)-bis(2-butanolato)(2,4-pentanedionato- $\kappa$ O, $\kappa$ O')aluminum, butyl 2-methyl-2-propenoate, dimethoxydimethylsilane, oxiranylmethyl 2-methyl-2-propenoate, silicic acid (H<sub>4</sub>SiO<sub>4</sub>) tetraethyl ester, trimethoxymethylsilane and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 98584-81-7

CMF C13 H25 Al O4

CCI CCS

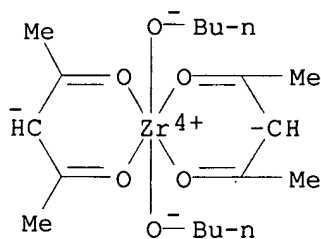


CM 2

CRN 62905-51-5

CMF C18 H32 O6 Zr

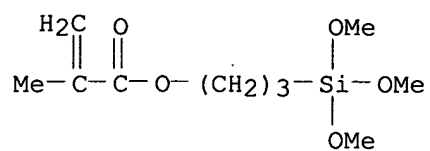
CCI CCS



CM 3

CRN 2530-85-0

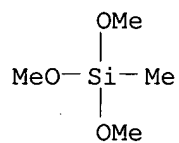
CMF C10 H20 O5 Si



CM 4

CRN 1185-55-3

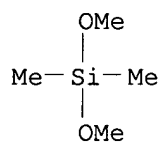
CMF C4 H12 O3 Si



CM 5

CRN 1112-39-6

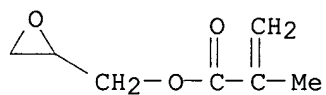
CMF C4 H12 O2 Si



CM 6

CRN 106-91-2

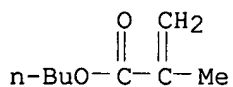
CMF C7 H10 O3



CM 7

CRN 97-88-1

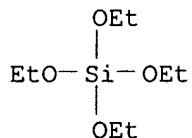
CMF C8 H14 O2



CM 8

CRN 78-10-4

CMF C8 H20 O4 Si



RN 329695-97-8 HCAPLUS

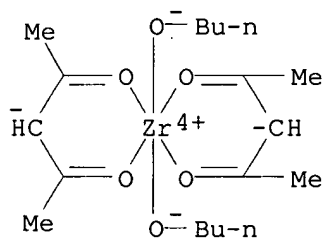
CN Zirconium, dibutoxybis(2,4-pentanedionato- $\kappa\text{O},\kappa\text{O}'$ )-, polymer with butyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate, trimethoxymethylsilane and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 62905-51-5

CMF C18 H32 O6 Zr

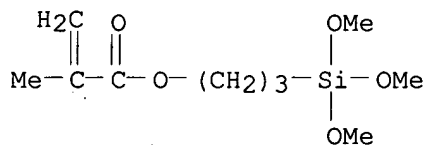
CCI CCS



CM 2

CRN 2530-85-0

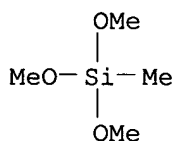
CMF C10 H20 O5 Si



CM 3

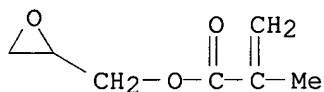
CRN 1185-55-3

CMF C4 H12 O3 Si



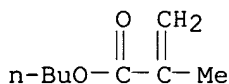
CM 4

CRN 106-91-2  
CMF C7 H10 O3



CM 5

CRN 97-88-1  
CMF C8 H14 O2



L49 ANSWER 18 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:781082 HCAPLUS

DN 133:357205

TI Electrophotographic photoreceptor, its manufacture, process cartridge, and electrophotographic apparatus

IN Tsuji, Haruyuki; Morikawa, Yosuke; Asano, Kumiko

PA Canon Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000310871	A2	20001107	JP 1999-120202	19990427
PRAI	JP 1999-120202		19990427		

OS MARPAT 133:357205

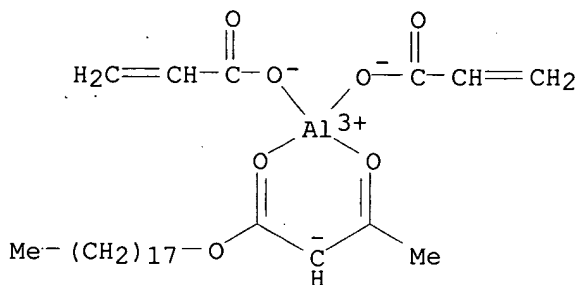
AB The photoreceptor has a protective layer containing a resin prepared from an (oligomerized) reactive (meth)acryloyl-containing P-free acrylic monomer, electroconductive micropowders, and a coupling agent having reactive (meth)acryloyl group. The photoreceptor manufacturing process involving **coating** application and its curing for the protective layer, is also claimed. The photoreceptor shows stable surface resistivity and long service life and provides defect-free images.

IC ICM G03G005-147

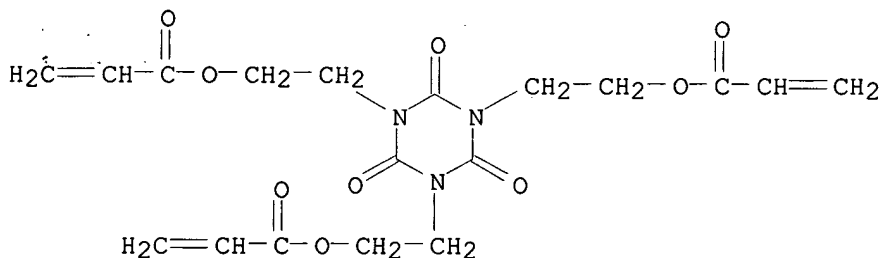
ICS G03G005-147

- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 42
- ST electrophotog photoreceptor surface modified conductive micropowder; acrylic protective layer stable resistivity photoreceptor; phosphorus free protective layer electrophotog photoreceptor; tin oxide surface modified photoreceptor skin
- IT Cleaning  
(apparatus, electrophotog.; electrophotog. photoreceptor with P-free acrylic protective layer containing surface-modified **metal oxide** powders)
- IT Surfactants  
(electroconductive powder modifiers; electrophotog. photoreceptor with P-free acrylic protective layer containing surface-modified **metal oxide** powders)
- IT Polysiloxanes, uses  
Siloxanes (nonpolymeric)  
RL: MOA (Modifier or additive use); USES (Uses)  
(electroconductive powder modifiers; electrophotog. photoreceptor with P-free acrylic protective layer containing surface-modified **metal oxide** powders)
- IT Electrophotographic photoconductors (photoreceptors)  
(electrophotog. photoreceptor with P-free acrylic protective layer containing surface-modified **metal oxide** powders)
- IT Electric conductors  
(powders; electrophotog. photoreceptor with P-free acrylic protective layer containing surface-modified **metal oxide** powders)
- IT Electrophotographic apparatus  
(process cartridge; electrophotog. photoreceptor with P-free acrylic protective layer containing surface-modified **metal oxide** powders)
- IT Coating materials  
(radiation-curable; electrophotog. photoreceptor with P-free acrylic protective layer containing surface-modified **metal oxide** powders)
- IT Coupling agents  
(silane; electrophotog. photoreceptor with P-free acrylic protective layer containing surface-modified **metal oxide** powders)
- IT 7782-41-4D, Fluorine, compds., uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(electroconductive powder modifiers; electrophotog. photoreceptor with P-free acrylic protective layer containing surface-modified **metal oxide** powders)
- IT 1332-29-2, Tin oxide  
RL: DEV (Device component use); USES (Uses)  
(micropowd., protective layer containing; electrophotog. photoreceptor with P-free acrylic protective layer containing surface-modified **metal oxide** powders)
- IT 429-60-7, (3,3,3-Trifluoropropyl)trimethoxysilane  
RL: MOA (Modifier or additive use); USES (Uses)  
(micropowder modifier; electrophotog. photoreceptor with P-free acrylic protective layer containing surface-modified **metal oxide** powders)
- IT 24636-31-5P 304917-30-4P 304917-36-0P **304917-41-7P**  
305328-32-9P  
RL: DEV (Device component use); PNU (Preparation, unclassified); **PREP (Preparation)**; USES (Uses)  
(protective layers; electrophotog. photoreceptor with P-free acrylic protective layer containing surface-modified **metal oxide**

powders)  
 IT 304917-41-7P  
 RL: DEV (Device component use); PNU (Preparation, unclassified); **PREP**  
**(Preparation)**; USES (Uses)  
 (protective layers; electrophotog. photoreceptor with P-free acrylic  
 protective layer containing surface-modified **metal oxide**  
 powders)  
 RN 304917-41-7 HCAPLUS  
 CN Aluminum, [octadecyl 3-(oxo-κO)butanoato-κO']bis(2-propenoato-  
 κO)-, (T-4)-, polymer with (2,4,6-trioxo-1,3,5-triazine-  
 1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl tri-2-propenoate (9CI) (CA INDEX  
 NAME)  
 CM 1  
 CRN 223528-58-3  
 CMF C28 H47 Al O7  
 CCI CCS



CM 2  
 CRN 40220-08-4  
 CMF C18 H21 N3 O9

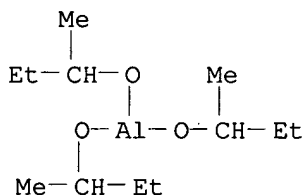


L49 ANSWER 19 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2000:307538 HCAPLUS  
 DN 133:239387  
 TI Development and screening of organic-inorganic hybrid coatings with  
 anti-fouling properties for application on optical underwater instruments  
 AU Meinema, H. A.; Rentrop, C. H. A.; Breur, H. J. A.; Ferrari, G. M.  
 CS Department of Materials Chemistry and Coatings, TNO-TPD, Eindhoven, 5600  
 AN, Neth.

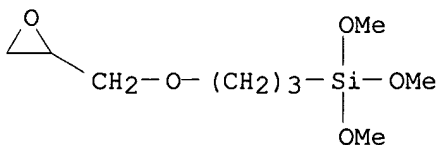
- SO International Conference on Coatings on Glass, High-Performance Coatings for Transparent Systems in Large-Area and/or High-Volume Applications, 2nd, Saarbruecken, Germany, Sept. 6-10, 1998 (1999), Meeting Date 1998, 107-113. Editor(s): Pulker, Hans K.; Schmidt, H.; Aegerter, M. A. Publisher: Elsevier Science B.V., Amsterdam, Neth. CODEN: 68YMAG
- DT Conference
- LA English
- AB For long term applications of optical underwater instruments in the marine environment, reduction of biofouling is of major importance. Coatings on glass substrates with antifouling properties were developed, by the introduction of surface active functional groups in transparent organic-inorg. hybrid matrixes. Hybrid organic-inorg. coatings were synthesized by hydrolysis and condensation of compns. containing functionally substituted (organo)silicon alkoxides  $RnSi(OR')_{4-n}$ , ( $R$  = alkyl, fluorine-substituted alkyl, phenyl;  $R'$  = Me, ethyl;  $n$  = 0 or 1). A correlation between surface energy (contact angle with water) and marine anti-fouling properties is observed. Biol. fouling is reduced but can not be completely prevented. Furthermore, it has become apparent that hybrid coatings with hydrophobic character are easy to clean, this in contrast to non-coated glass. Marine biofouling can also be decreased by the incorporation of inorg. biocides, such as boron oxide, copper and silver, in the coating matrix.
- CC 42-4 (Coatings, Inks, and Related Products)
- ST polysiloxane antifouling coating marine glass
- IT Coating materials  
(antifouling; antifouling organic-inorg. hybrid coatings for application on optical underwater instruments)
- IT Biocides  
Contact angle  
Hybrid organic-inorganic materials  
Surface energy  
(organic-inorg. hybrid antifouling coatings for application on optical underwater instruments)
- IT Glass, uses  
RL: DEV (Device component use); PRP (Properties); USES (Uses)  
(organic-inorg. hybrid antifouling coatings for application on optical underwater instruments)
- IT Silsesquioxanes  
Silsesquioxanes  
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(silicate-; organic-inorg. hybrid antifouling coatings for application on optical underwater instruments)
- IT Silicates, uses  
Silicates, uses  
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(silsesquioxane-; organic-inorg. hybrid antifouling coatings for application on optical underwater instruments)
- IT Optical instruments  
(underwater; organic-inorg. hybrid antifouling coatings for application on optical underwater instruments)
- IT 1303-86-2, Boron trioxide, uses 7440-22-4, Silver, uses 7440-50-8, Copper, uses  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); MOA (Modifier or additive use); BIOL (Biological study); USES (Uses)  
(biocide; organic-inorg. hybrid antifouling coatings for application on



optical underwater instruments)  
 IT 7631-86-9, Silica, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (organic-inorg. hybrid antifouling coatings for application on optical underwater instruments)  
 IT 9016-00-6P, Poly[oxy(dimethylsilylene)] 25930-91-0P,  
 Poly(methyltriethoxysilane) 52848-36-9P, Dimethyldiethoxysilane  
**homopolymer** 88029-70-3P 141087-51-6P 153315-80-1P,  
 Poly(methyltriethoxysilane), SRU 161708-11-8P, Diethoxydimethylsilane-  
 triethoxymethylsilane **copolymer 294178-51-1P**  
**294178-53-3P 294178-54-4P** 294178-55-5P 294178-56-6P  
 294178-57-7P **294178-58-8P**  
 RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)  
 (organic-inorg. hybrid antifouling coatings for application on optical underwater instruments)  
 IT **294178-51-1P 294178-53-3P 294178-54-4P**  
**294178-58-8P**  
 RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)  
 (organic-inorg. hybrid antifouling coatings for application on optical underwater instruments)  
 RN 294178-51-1 HCAPLUS  
 CN Aluminum, tris(2-butanolato)-, polymer with trimethoxymethylsilane and trimethoxy[3-(oxiranylethoxy)propyl]silane (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 129770-44-1  
 CMF C12 H27 Al O3

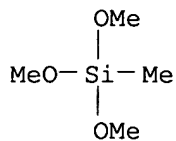


CM 2  
 CRN 2530-83-8  
 CMF C9 H20 O5 Si



CM 3  
 CRN 1185-55-3

CMF C4 H12 O3 Si



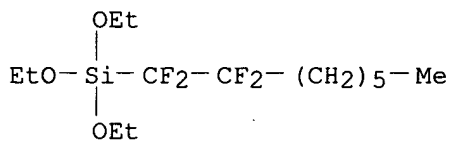
RN 294178-53-3 HCAPLUS

CN Aluminum, tris(2-butanolato)-, polymer with triethoxy(1,1,2,2-tetrafluorooctyl)silane, trimethoxymethylsilane and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 294178-52-2

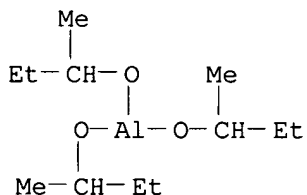
CMF C14 H28 F4 O3 Si



CM 2

CRN 129770-44-1

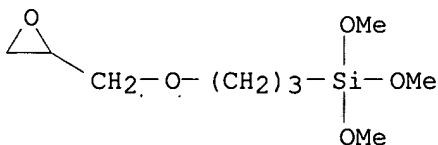
CMF C12 H27 Al O3



CM 3

CRN 2530-83-8

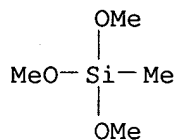
CMF C9 H20 O5 Si



CM 4

CRN 1185-55-3

CMF C4 H12 O3 Si



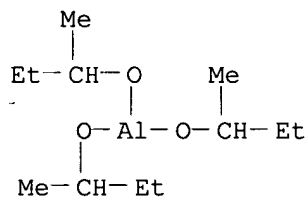
RN 294178-54-4 HCAPLUS

CN Aluminum, tris(2-butanolato)-, polymer with trimethoxymethylsilane, trimethoxyoctylsilane and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 129770-44-1

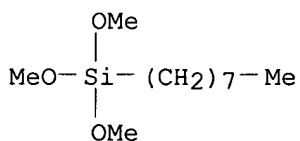
CMF C12 H27 Al O3



CM 2

CRN 3069-40-7

CMF C11 H26 O3 Si



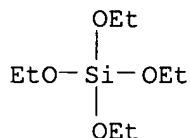
CM 3

CRN 2530-83-8

CMF C9 H20 O5 Si



CMF C8 H20 O4 Si



RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 20 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:672929 HCAPLUS

DN 131:300643

TI Method of forming hydrophilic inorganic coating **films** and  
inorganic coating compositions

IN Takahama, Koichi; Inoue, Minoru; Ikenaga, Junko; Nakamoto, Shoichi

PA Matsushita Electric Works, Ltd., Japan

SO PCT Int. Appl., 29 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9952986	A1	19991021	WO 1999-JP1928	19990412
	W: CA, CN, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 989169	A1	20000329	EP 1999-913627	19990412
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 3367953	B2	20030120	JP 1999-551500	19990412
	CA 2293356	C	20031230	CA 1999-2293356	19990412
	CA 2293356	AA	19991021		
	US 2001008696	A1	20010719	US 1999-445350	19991208
	US 6303229	B2	20011016		
PRAI	JP 1998-98670	A	19980410		
	WO 1999-JP1928	W	19990412		
AB	A method comprises hydrolyzing Si(OR) <sub>4</sub> (wherein R is a ≤C <sub>7</sub> alkyl or aryl) to give silicone resins having solids content ≤5%, coating on a substrate, and drying to thickness 0.01-0.5 μm. Thus, tetraethoxysilane 50, tetraisopropoxysilane 50, and Oscal 1432 (acidic colloidal silica) 100, iso-PrOH 75, and water 100 parts were stirred 5 h at 60° to give a hydrolyzate, mixed with iso-PrOH, sprayed on glass, dried, and <b>heated</b> to form a coating.				
IC	ICM C09D183-00				
	ICS C09D001-00; C09D005-00; B05D007-24				
CC	42-10 ( <b>Coatings</b> , Inks, and Related Products)				
ST	ethoxysilane isopropoxysilane hydrolyzate silica coating glass; silicone resin coating glass; hydrolytic polymn alkoxysilane coating				
IT	Synthetic fibers				
	RL: MOA (Modifier or additive use); USES (Uses)				
	(-reinforced plastics; hydrophilic silicone resin coatings on)				
IT	Polysiloxanes, uses				
	RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				

(Furessera N, primers; hydrophilic silicone resin coatings)

IT Silanes  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(alkoxy; hydrophilic silicone resin coatings)

IT Polymerization  
(hydrolytic; hydrophilic silicone resin coatings)

IT Coating materials  
(hydrophilic coatings; hydrophilic silicone resin coatings)

IT Coating process  
Photoconductors  
Primers (paints)  
(hydrophilic silicone resin coatings)

IT Cement (construction material)  
Ceramics  
Concrete  
Enamels (vitreous)  
Wood  
(hydrophilic silicone resin coatings on)

IT Glass, miscellaneous  
Metals, miscellaneous  
Plastics, miscellaneous  
RL: MSC (Miscellaneous)  
(hydrophilic silicone resin coatings on)

IT Sols  
(silica; hydrophilic silicone resin coatings)

IT 70431-63-9P 247080-80-4P, Tetraethoxysilane-tetrahydroxysilane-tetraisopropoxysilane copolymer **247080-81-5P**,  
Tetraethoxysilane-tetrahydroxysilane-tetramethoxysilane-titanium tetrahydroxide copolymer  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(hydrophilic silicone resin coatings)

IT 7429-90-5, Aluminum, miscellaneous  
RL: MSC (Miscellaneous)  
(hydrophilic silicone resin coatings on)

IT **247080-81-5P**, Tetraethoxysilane-tetrahydroxysilane-tetramethoxysilane-titanium tetrahydroxide copolymer  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(hydrophilic silicone resin coatings)

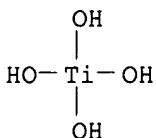
RN 247080-81-5 HCAPLUS

CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), polymer with silicic acid (H<sub>4</sub>SiO<sub>4</sub>) tetraethyl ester, silicic acid (H<sub>4</sub>SiO<sub>4</sub>) tetramethyl ester and (T-4)-titanium hydroxide (Ti(OH)<sub>4</sub>) (9CI) (CA INDEX NAME)

CM 1

CRN 20338-08-3

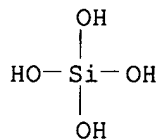
CMF H4 O4 Ti



CM 2

CRN 10193-36-9

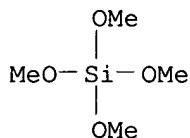
CMF H4 O4 Si



CM 3

CRN 681-84-5

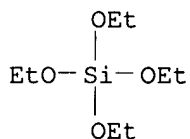
CMF C4 H12 O4 Si



CM 4

CRN 78-10-4

CMF C8 H20 O4 Si



RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 21 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 1998:376478 HCAPLUS  
DN 129:87931  
TI **Optically** Induced Dichroism and Birefringence of Disperse Red 1  
in Hybrid Polymers  
AU Boehm, N.; Materny, A.; Steins, H.; Mueller, M. M.; Schottner, G.  
CS Institut fuer Physikalische Chemie, Universitaet Wuerzburg, Wuerzburg,  
D-97074, Germany  
SO Macromolecules (1998), 31(13), 4265-4271  
CODEN: MAMOBX; ISSN: 0024-9297  
PB American Chemical Society  
DT Journal  
LA English  
AB We report results of dichroism and birefringence measurements on Disperse  
Red 1 (DR1) in hybrid polymers. To investigate the influence of the

matrix-chromophore interaction, we employ doped and functionalized systems using three kinds of matrixes with different rigidity. Writing, erasing, and rewriting processes are performed on the polymer **films** at temps. ranging from 50 to 300 K. Two processes are recognized, the photochem. cis-trans isomerization of the dye mols. and a thermal motion of the photoactive chromophore inside the surrounding matrix. By comparing results obtained from the different network systems, we find that the main parameter correlated with the extent of induced anisotropy is the degree of mobility of the chromophore within the surrounding matrix.

- CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 73
- ST **optically** induced dichroism Disperse Red polymer; birefringence Disperse Red polymer; photoisomerization Disperse Red polymer **optical** recording
- IT Polysiloxanes, properties  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)  
(acrylate siloxanes; **optically** induced dichroism and birefringence in Disperse Red 1 containing hybrid polymers and **optical** recording based on dye photopolymn. in this system)
- IT **Optical** recording  
**Optical** recording materials  
(erasable; **optically** induced dichroism and birefringence in Disperse Red 1 containing hybrid polymers and **optical** recording based on dye photopolymn. in this system)
- IT Dichroism  
(**optically** induced; **optically** induced dichroism and birefringence in Disperse Red 1 containing hybrid polymers and **optical** recording based on dye photopolymn. in this system)
- IT Birefringence  
(photoinduced; **optically** induced dichroism and birefringence in Disperse Red 1 containing hybrid polymers and **optical** recording based on dye photopolymn. in this system)
- IT Isomerization  
(photoisomerization; **optically** induced dichroism and birefringence in Disperse Red 1 containing hybrid polymers and **optical** recording based on dye photopolymn. in this system)
- IT 2872-52-8, Disperse Red 1 103553-48-6, Disperse Red 1 methacrylate  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)  
(**optically** induced dichroism and birefringence in Disperse Red 1 containing hybrid polymers and **optical** recording based on dye photopolymn. in this system)
- IT 146124-41-6P 174201-58-2P 193144-15-9P  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**; PROC (Process)  
(**optically** induced dichroism and birefringence in Disperse Red 1 containing hybrid polymers and **optical** recording based on dye photopolymn. in this system)
- IT 4491-03-6, Bisphenol A diacrylate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(**optically** induced dichroism and birefringence in Disperse Red 1 containing hybrid polymers and **optical** recording based on dye photopolymn. in this system)
- IT 132695-68-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with methacryloxypropyltrimethoxysilane in preparation of polymer



matrix for Disperse Red 1 for **optical** recording)

IT 2530-85-0  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with propoxyzirconium methacrylate in preparation of polymer matrix for Disperse Red 1 for **optical** recording)

IT 31001-77-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with trimethylolpropane triacrylate or Bisphenol A diacrylate in preparation of polymer matrix for Disperse Red 1 for **optical** recording)

IT 174201-58-2P  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**; PROC (Process)  
 (**optically** induced dichroism and birefringence in Disperse Red 1 containing hybrid polymers and **optical** recording based on dye photopolymn. in this system)

RN 174201-58-2 HCAPLUS

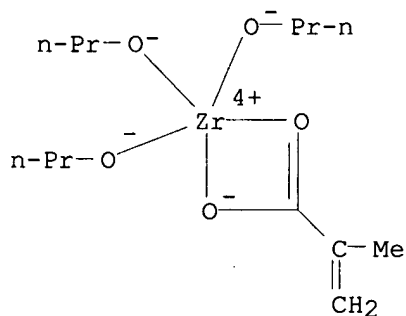
CN Zirconium, (2-methyl-2-propenoato-O,O')tripropoxy-, polymer with 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 132695-68-2

CMF C13 H26 O5 Zr

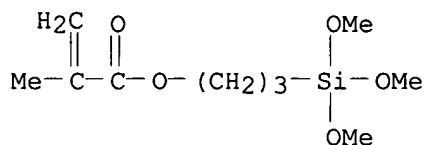
CCI CCS



CM 2

CRN 2530-85-0

CMF C10 H20 O5 Si



RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 22 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

AN 1997:502745 HCAPLUS  
 DN 127:122129  
 TI Germanosiloxane materials and **optical** components  
 IN Risen, William M., Jr.; Wang, Yong Zhong; Honore, Athena  
 PA Risen, William M., Jr., USA; Wang, Yong Zhong; Honore, Athena  
 SO PCT Int. Appl., 32 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9722653	A1	19970626	WO 1996-US20678	19961219
	W: AL, AM, AU, BB, BG, BR, CA, CN, CZ, EE, FI, GE, HU, IL, IS, JP, KG, KP, KR, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9726574	A1	19970728	AU 1997-26574	19961218
	AU 9716880	A1	19970714	AU 1997-16880	19961219
	AU 9724205	A1	19970714	AU 1997-24205	19961219
	US 6294217	B1	20010925	US 1998-101026	19980918
	US 6248852	B1	20010619	US 1998-91393	19981001
PRAI	US 1995-9001P	P	19951219		
	WO 1996-US20265	W	19961218		
	WO 1996-US20095	W	19961219		
	WO 1996-US20678	W	19961219		

AB Ge-containing silicones (Ge mole content 1-50 mol %) have Ge incorporated into the siloxane backbone with GeOSi bond or onto a carboxylated siloxane as the Ge ester form with a CO<sub>2</sub>Ge bond. In the materials with pendant carboxylic acid groups, the protons can be replaced by metal ions such as an alkali, alkaline earth, transition metal, or rare earth metal ions to form ionomers. The title materials can be cross-linked, with UV light or other means with or without a photoinitiator. A Ge-containing silicate **film** on a substrate such as Si or other material wafer, formed through thermal oxidation of germanosiloxane precursor, find use in planar waveguide applications. Thus, the copolymer of 3-cyanopropylmethyldichlorosilane, dichloromethylgermane, and dichloromethylsilane in which CN groups were hydrolyzed to CO<sub>2</sub>H groups was dissolved in Et<sub>2</sub>O, coated onto Si wafer, and heated in a tube furnace up to 600°.

IC ICM C08G077-58

CC 35-6 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): **42, 57, 73**

ST germanosiloxane manuf **optical** material; carboxylated siloxane germanium ester manuf; ionomeric germanosiloxane; germanoxane siloxane manuf; silicate glass germanosiloxane precursor

IT Germanosilicate glasses

RL: TEM (Technical or engineered material use); USES (Uses)  
 (germanosiloxane manufacture and use in **optical** materials by coating)

IT Polysiloxanes, preparation

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(germoxane-; germanosiloxane manufacture and use in **optical** materials)

IT Silsesquioxanes

Silsesquioxanes

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(germoxane-polysiloxane-; germanosiloxane manufacture and use in **optical** materials)

IT Polysiloxanes, preparation

Polysiloxanes, preparation

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(germoxane-silsesquioxane-; germanosiloxane manufacture and use in **optical** materials)

IT Semiconductor materials

(silicone; germanosiloxane manufacture and use in **optical** materials by coating)

IT 192710-73-9DP, carboxylated **192710-74-0P**, Carboxyethylgermanium sesquioxide-dichloromethylsilane copolymer 192710-75-1DP, carboxylated, germanium ester

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(germanosiloxane manufacture and use in **optical** materials)

IT **192710-74-0P**, Carboxyethylgermanium sesquioxide-dichloromethylsilane copolymer

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(germanosiloxane manufacture and use in **optical** materials)

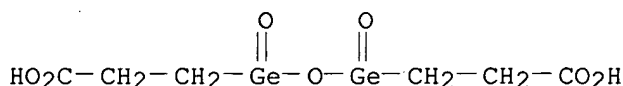
RN 192710-74-0 HCAPLUS

CN Propanoic acid, 3,3'-(1,3-dioxo-1,3-digerloxanediy)bis-, polymer with dichloromethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 12758-40-6

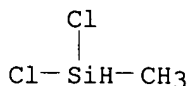
CMF C6 H10 Ge2 O7



CM 2

CRN 75-54-7

CMF C H4 Cl2 Si



L49 ANSWER 23 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1997:273649 HCAPLUS

DN 126:252530

TI **Heat**-resistant printing ink compositions with good discoloration prevention and viscosity stability

IN Inoe, Takahiko; Sakuma, Kazuo

PA Sakata Inks, Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

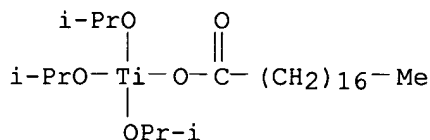
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09031385	A2	19970204	JP 1995-183039	19950719
PRAI	JP 1995-183039		19950719		
OS	MARPAT 126:252530				
AB	Title compns. contain pigments, OH-containing resins, organic solvents, and $\geq 1$ Ti(OR1)(OR2)(OR3)(OR4) and (R5O)(R6O)(R7O)Ti1...cn tdot...OTin(OR2n+4)(OR2n+5)(OR2n+6) (R's = C3-18 alkyl, acyl; $\geq (2n + 2)/4$ of R's are C17H35CO; n = 1-10) as crosslinking agents. Thus, an ink comprising triisopropoxytitanium monostearate 0.1, Tipaque R 900 (TiO2) 30, Rheomide S 2600 (polyamide) 16, HIG 1/2 4, and a 60:30:10 mixture of PhNe/Me2CHOH/EtOAc 49.9 parts was applied on a polypropylene film to show transfer temperature 100-120°, good viscosity stability, and no yellowing after 7 days at 40°.				
IC	ICM C09D011-02 ICS C09D011-08; C09D011-10				
CC	42-12 (Coatings, Inks, and Related Products)				
ST	titanium stearate crosslinking agent printing ink; nitrocellulose polyamide titanium stearate printing ink; titanoxane stearate crosslinking agent ink; <b>heat</b> resistance printing ink; storage stability printing ink; discoloration prevention polyamide cellulose titanoxane ink				
IT	Titanoxanes RL: MOA (Modifier or additive use); USES (Uses) (crosslinking agents, polyamides and cellulose derivs.; <b>heat</b> -resistant and storage-stable cellulose-polyamide printing ink compns. containing titanium stearates crosslinking agents)				
IT	Crosslinking agents Discoloration prevention ( <b>heat</b> -resistant and storage-stable cellulose-polyamide printing ink compns. containing titanium stearates crosslinking agents)				
IT	Inks (printing; <b>heat</b> -resistant and storage-stable cellulose-polyamide printing ink compns. containing titanium stearates crosslinking agents)				
IT	17283-75-9, Triisopropoxytitanium monostearate 32670-03-4, Diisopropoxytitanium distearate 114068-94-9 188425-83-4 <b>188425-87-8</b> 188425-90-3 188425-92-5 RL: MOA (Modifier or additive use); USES (Uses) (crosslinking agents, polyamides and cellulose derivs.; <b>heat</b> -resistant and storage-stable cellulose-polyamide printing ink compns. containing titanium stearates crosslinking agents)				
IT	<b>188570-57-2P 188570-58-3P 188570-59-4P</b> <b>188570-60-7P 188626-80-4P 188651-99-2P</b> RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) ( <b>heat</b> -resistant and storage-stable cellulose-polyamide printing ink compns. containing titanium stearates crosslinking agents)				
IT	<b>188425-87-8</b> RL: MOA (Modifier or additive use); USES (Uses) (crosslinking agents, polyamides and cellulose derivs.; <b>heat</b> -resistant and storage-stable cellulose-polyamide printing ink compns. containing titanium stearates crosslinking agents)				
RN	188425-87-8 HCAPLUS				

CN Titanium, (octadecanoato-κO)tris(2-propanolato)-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 17283-75-9

CMF C27 H56 O5 Ti



IT 188570-57-2P 188570-58-3P 188570-59-4P

188570-60-7P 188651-99-2P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(heat-resistant and storage-stable cellulose-polyamide printing ink compns. containing titanium stearates crosslinking agents)

RN 188570-57-2 HCAPLUS

CN Cellulose, nitrate, polymer with (T-4)-(octadecanoato-κO)tris(2-propanolato)titanium and Rheomide S 2600 (9CI) (CA INDEX NAME)

CM 1

CRN 188494-81-7

CMF Unspecified

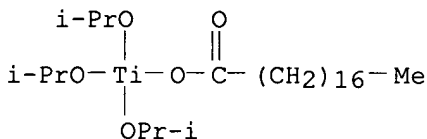
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 17283-75-9

CMF C27 H56 O5 Ti



CM 3

CRN 9004-70-0

CMF H N O3 . x Unspecified

CM 4

CRN 9004-34-6

CMF Unspecified

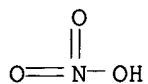
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 7697-37-2

CMF H N O3



RN 188570-58-3 HCAPLUS

CN Cellulose, nitrate, polymer with (T-4)-bis(octadecanoato-κO)bis(2-propanolato)titanium and Rheomide S 2600 (9CI) (CA INDEX NAME)

CM 1

CRN 188494-81-7

CMF Unspecified

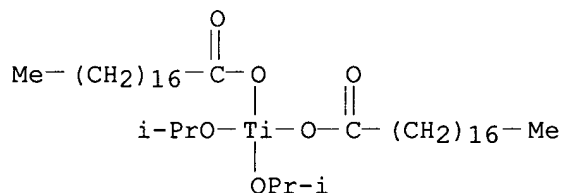
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 32670-03-4

CMF C42 H84 O6 Ti



CM 3

CRN 9004-70-0

CMF H N O3 . x Unspecified

CM 4

CRN 9004-34-6

CMF Unspecified

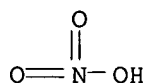
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 7697-37-2

CMF H N O3



RN 188570-59-4 HCAPLUS  
 CN Cellulose, nitrate, polymer with bis(octadecanoato-κO)-μ-oxotetrakis(2-propanolato)ditanium and Rheomide S 2600 (9CI) (CA INDEX NAME)

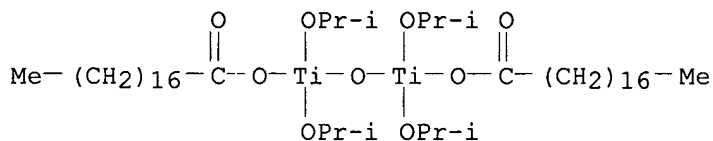
CM 1

CRN 188494-81-7  
 CMF Unspecified  
 CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 188425-83-4  
 CMF C48 H98 O9 Ti2



CM 3

CRN 9004-70-0  
 CMF H N O3 . x Unspecified

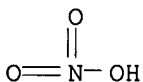
CM 4

CRN 9004-34-6  
 CMF Unspecified  
 CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 7697-37-2  
 CMF H N O3



RN 188570-60-7 HCAPLUS  
 CN Cellulose, nitrate, polymer with Rheomide S 2600 and

tetrakis(octadecanoato-κO)-μ-oxobis(2-propanolato)dititanium  
(9CI) (CA INDEX NAME)

CM 1

CRN 188494-81-7

CMF Unspecified

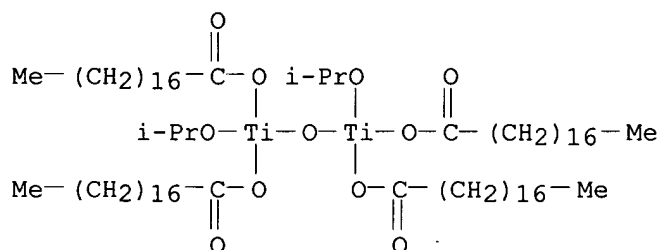
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 188425-90-3

CMF C78 H154 O11 Ti2



CM 3

CRN 9004-70-0

CMF H N O3 . x Unspecified

CM 4

CRN 9004-34-6

CMF Unspecified

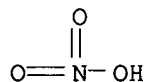
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 7697-37-2

CMF H N O3



RN 188651-99-2 HCAPLUS

CN Cellulose, nitrate, polymer with Rheomide S 2600 and  
tetrakis(octadecanoato-O)tri-μ-oxohexakis(2-propanolato)tetratitanium  
(9CI) (CA INDEX NAME)

CM 1

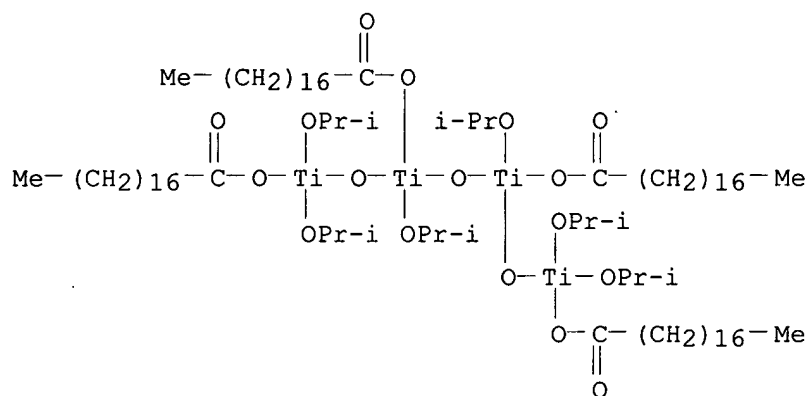


CRN 188494-81-7  
CMF Unspecified  
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 114068-94-9  
CMF C90 H182 O17 Ti4



CM 3

CRN 9004-70-0  
CMF H N O3 . x Unspecified

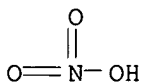
CM 4

CRN 9004-34-6  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 7697-37-2  
CMF H N O3



L49 ANSWER 24 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 1997:90299 HCAPLUS  
DN 126:105103  
TI Glass composites, precursors thereof, nitrogen-containing composites,

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

light-emitting devices, electrophotographic photoreceptors, nonlinear optical devices, and laser devices

IN Hiraoka, Toshiro; Jurian, Ko; Nakano, Yoshihiko; Murai, Shinji; Hayase, Shuji; Todor, Kenji; Majima, Yutaka

PA Tokyo Shibaura Electric Co, Japan

SO Jpn. Kokai Tokkyo Koho, 51 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08295537	A2	19961112	JP 1995-261008	19950914
PRAI	JP 1994-222845	A	19940919		
	JP 1995-42187	A	19950301		

AB The title composites contain glass components fixed to polymers such as polysilanes, polygermanes, polystannanes, etc. in a highly crosslinked compact tridimensional network form, thus have high durability, retain desirable optical and elec. properties of the polymers, can be molded into thin materials of uniform thickness, and contain **metal oxide** network structures formed by bonding of metal atoms via O, wherein the polymer chains are chemical crosslinked at the glass matrix of **metal oxide** network structures and have volume resistivity (as measured by circular plate electrode method at voltage/thickness ratio  $10^6$  V/cm)  $\leq 3 \times 10^6 \Omega\text{-cm}$ . A solution from poly[hexyl(6-hydroxyhexyl)silylene] and tetraethoxysilane in EtOH was treated with aqueous ammonia and EtOH, stirred at room temperature for 12 h, spin-coated on a quartz plate, and dried at  $40^\circ$  for 5 h to obtain a specimen with pencil hardness B.

IC ICM C03C014-00

ICS C08G079-00; C08L085-00; C09K011-06; G02F001-35; G03G005-04; H01S003-17; C08L083-00

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 42, 57, 73, 74

ST glass composite polysilane; light emitting device; electrophotog photoreceptor; nonlinear optical device; laser device

IT Phosphors

(electroluminescent; glass composites, precursors thereof, nitrogen-containing composites, light-emitting devices, electrophotog. photoreceptors, nonlinear optical devices, and laser devices)

IT Electrophotographic photoconductors (photoreceptors)

Lasers

(glass composites, precursors thereof, nitrogen-containing composites, light-emitting devices, electrophotog. photoreceptors, nonlinear optical devices, and laser devices)

IT Glass, uses

Polygermanes

Polymer blends

Polysilanes

Polysiloxanes, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(glass composites, precursors thereof, nitrogen-containing composites, light-emitting devices, electrophotog. photoreceptors, nonlinear optical devices, and laser devices)

IT Optical instruments

(nonlinear; glass composites, precursors thereof, nitrogen-containing composites, light-emitting devices, electrophotog. photoreceptors, nonlinear optical devices, and laser devices)

IT Polymers, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
 (polystannanes; glass composites, precursors thereof, nitrogen-containing  
 composites, light-emitting devices, electrophotog. photoreceptors,  
 nonlinear optical devices, and laser devices)

IT 555-31-7, Aluminum triisopropoxide  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (crosslinker; glass composites, precursors thereof, nitrogen-containing  
 composites, light-emitting devices, electrophotog. photoreceptors,  
 nonlinear optical devices, and laser devices)

IT 75-65-ODP, tert-Butanol, reaction products with poly(methylphenylsilylene)  
 29386-52-5P 31324-77-3DP, Dichloromethylphenylsilane polymer, reaction  
 products with tert-butanol or methanol 51176-28-4P,  
 Poly(diphenylsilylene) 76188-55-1DP, Poly(methylphenylsilylene),  
 reaction products with tert-butanol or methanol 98388-45-5P,  
 Poly(dibutylgermylene) 98390-92-2P 120539-32-4P, Poly[bis(1,1-  
 dimethylethoxy)silylene] 126367-39-3P 126391-06-8P,  
 Poly(methoxymethylsilylene) 129573-58-6P 163421-36-1P 185838-21-5P,  
 Poly(butylethoxystannylene) 185838-23-7P, Poly(butylethoxygermylene)  
 185838-62-4P 185838-64-6P, Poly[(1,1-dimethylethoxy)methylsilylene]  
 185838-66-8P 185838-69-1P 185838-73-7P 185838-76-0P 185839-11-6P  
**185839-13-8P**  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
 use); **PREP (Preparation)**; USES (Uses)  
 (glass composites, precursors thereof, nitrogen-containing composites,  
 light-emitting devices, electrophotog. photoreceptors, nonlinear  
 optical devices, and laser devices)

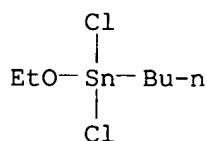
IT 78-10-4 9003-39-8, Polyvinylpyrrolidone 14808-60-7, Quartz, uses  
 25233-30-1, Polyaniline 27964-56-3 30604-81-0, Polypyrrole  
 128679-65-2 128835-51-8, Poly(hexylphenylsilylene) 145272-93-1  
 150731-74-1 150731-97-8, Poly[hexyl(6-hydroxyhexyl)silylene]  
 156182-43-3, Poly(methoxyphenylsilylene) 157408-20-3 168330-91-4,  
 Poly(dimethylstannylene) 185838-58-8, Poly(ethoxyhexylsilylene)  
 185838-60-2, Poly(dimethoxysilylene) 185838-79-3,  
 Poly(methoxyphenylstannylene) 185838-81-7, Poly(methoxymethylstannylene)  
 185838-84-0, Poly(methoxymethylgermylene) 185838-89-5 185838-92-0  
 185838-98-6 185839-01-4 185839-04-7 185839-07-0 185839-09-2  
 185839-10-5  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (glass composites, precursors thereof, nitrogen-containing composites,  
 light-emitting devices, electrophotog. photoreceptors, nonlinear  
 optical devices, and laser devices)

IT **185839-13-8P**  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
 use); **PREP (Preparation)**; USES (Uses)  
 (glass composites, precursors thereof, nitrogen-containing composites,  
 light-emitting devices, electrophotog. photoreceptors, nonlinear  
 optical devices, and laser devices)

RN 185839-13-8 HCAPLUS  
 CN Stannane, butyldichloroethoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 185839-12-7  
 CMF C6 H14 Cl2 O Sn



L49 ANSWER 25 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1996:171899 HCAPLUS  
 DN 124:205173  
 TI **Coatings** for silica-based electrically insulated films  
 , their manufacture, and semiconductors therewith  
 IN Matsuzawa, Jun  
 PA Hitachi Chemical Co., Ltd., Japan  
 SO PCT Int. Appl., 73 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9600758	A1	19960111	WO 1995-JP1305	19950630
	W: AU, BR, CN, CZ, FI, JP, KR, MX, PL, RU, UA, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9534600	A1	19960125	AU 1995-34600	19950630
	EP 768352	A1	19970416	EP 1995-923552	19950630
	R: DE, FR, GB				
	CN 1151752	A	19970611	CN 1995-193887	19950630
	CN 1069675	B	20010815		
	JP 2858960	B2	19990217	JP 1995-503019	19950630
	US 6000339	A	19991214	US 1996-765240	19961218
PRAI	JP 1994-148402	A	19940630		
	JP 1995-38179	A	19950227		
	WO 1995-JP1305	W	19950630		

AB Title **coatings** comprise (A) alkoxysilane (hydrolyzates), (B) fluoro or alkyl alkoxysilanes, (C) metal (excluding Si) alkoxide derivs., and (D) organic solvents or A, B, D, water, and catalysts. An EtOH solution containing Si(OMe)<sub>4</sub>, trifluoropropyltrimethoxysilane, maleic acid, and Ti(OBu)<sub>4</sub> gave a 597-nm pinhole-free **film** showing good O plasma resistance.

IC ICM C09D183-00

ICS H01L021-316; C09D185-00

CC 42-10 (**Coatings**, Inks, and Related Products)

Section cross-reference(s): 76

ST silica siloxane metalloxane elec insulating **film**; oxygen plasma resistance silica siloxane metalloxane

IT Electric insulators and Dielectrics

(**coatings**, silica-(fluoro)siloxane-**metalloxane** (or **metal oxide**) **films** with smoothness and oxygen plasma resistance)

IT Siloxanes and Silicones, uses

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(metalloxane-, silica-(fluoro)siloxane-**metalloxane** (or **metal oxide**) **films** as elec. insulators with oxygen plasma resistance)

IT Titanoxanes

Zirconoxanes

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(siloxane-, silica-(fluoro)siloxane-**metalloxane** (or **metal oxide**) films as elec. insulators with oxygen plasma resistance)

IT Siloxanes and Silicones, uses

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(titanoxane-, silica-(fluoro)siloxane-**metalloxane** (or **metal oxide**) films as elec. insulators with oxygen plasma resistance)

IT Siloxanes and Silicones, uses

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(zirconoxane-, silica-(fluoro)siloxane-**metalloxane** (or **metal oxide**) films as elec. insulators with oxygen plasma resistance)

IT 159728-56-0P 174572-00-0P **174572-01-1P 174572-02-2P**  
174572-03-3P **174572-04-4P 174572-05-5P** 174572-06-6P  
**174572-07-7P** 174572-08-8P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(elec. insulating films with smoothness and oxygen plasma resistance)

IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate

RL: CAT (Catalyst use); USES (Uses)

(initiator; silica-(fluoro)siloxane-**metalloxane** (or **metal oxide**) films as elec. insulators with oxygen plasma resistance)

IT 110-16-7, 2-Butenedioic acid (Z)-, uses 7697-37-2, Nitric acid, uses

RL: CAT (Catalyst use); USES (Uses)

(silica-(fluoro)siloxane-**metalloxane** (or **metal oxide**) films as elec. insulators with oxygen plasma resistance)

IT **174572-01-1P 174572-02-2P 174572-04-4P**

**174572-05-5P 174572-07-7P**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(elec. insulating films with smoothness and oxygen plasma resistance)

RN 174572-01-1 HCAPLUS

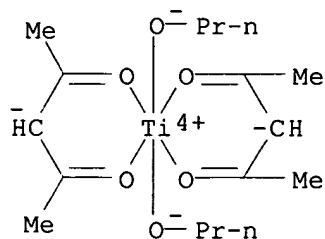
CN Titanium, bis(2,4-pentanedionato-O,O')dipropoxy-, polymer with silicic acid (H4SiO4) tetramethyl ester and trimethoxy(3,3,3-trifluoropropyl)silane (9CI) (CA INDEX NAME)

CM 1

CRN 21474-51-1

CMF C16 H28 O6 Ti

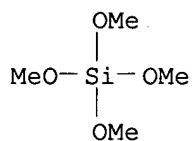
CCI CCS



CM 2

CRN 681-84-5

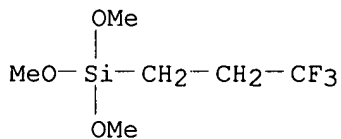
CMF C4 H12 O4 Si



CM 3

CRN 429-60-7

CMF C6 H13 F3 O3 Si



RN 174572-02-2 HCAPLUS

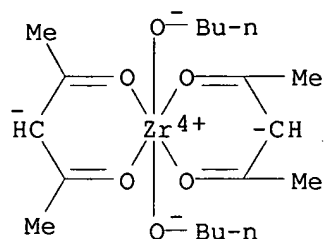
CN Zirconium, dibutoxybis(2,4-pentanedionato-O,O')-, polymer with silicic acid (H4SiO4) tetramethyl ester and trimethoxy(3,3,3-trifluoropropyl)silane (9CI) (CA INDEX NAME)

CM 1

CRN 62905-51-5

CMF C18 H32 O6 Zr

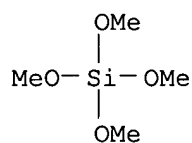
CCI CCS



CM 2

CRN 681-84-5

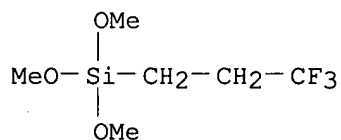
CMF C4 H12 O4 Si



CM 3

CRN 429-60-7

CMF C6 H13 F3 O3 Si



RN 174572-04-4 HCAPLUS

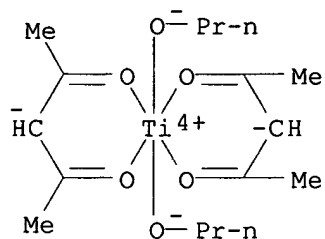
CN Titanium, bis(2,4-pentanedionato-O,O')dipropoxy-, polymer with silicic acid (H4SiO4) tetramethyl ester and trimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 21474-51-1

CMF C16 H28 O6 Ti

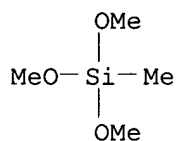
CCI CCS



CM 2

CRN 1185-55-3

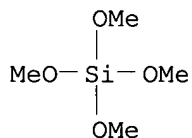
CMF C4 H12 O3 Si



CM 3

CRN 681-84-5

CMF C4 H12 O4 Si



RN 174572-05-5 HCAPLUS

CN Zirconium, dibutoxybis(2,4-pentanedionato-O,O')-, polymer with silicic acid (H4SiO4) tetramethyl ester and trimethoxymethylsilane (9CI) (CA INDEX NAME)

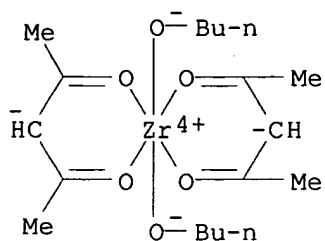
CM 1

CRN 62905-51-5

CMF C18 H32 O6 Zr

CCI CCS

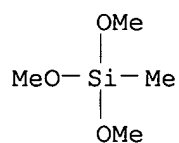




CM 2

CRN 1185-55-3

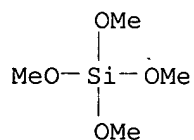
CMF C4 H12 O3 Si



CM 3

CRN 681-84-5

CMF C4 H12 O4 Si



RN 174572-07-7 HCAPLUS

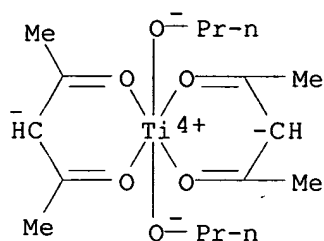
CN Titanium, bis(2,4-pentanedionato-O,O')dipropoxy-, polymer with trimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 21474-51-1

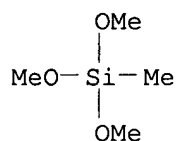
CMF C16 H28 O6 Ti

CCI CCS



CM 2

CRN 1185-55-3  
CMF C4 H12 O3 Si



L49 ANSWER 26 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 1995:810619 HCAPLUS  
DN 123:202379  
TI Storage-stable aluminosilicate-titanosilicate compositions and their manufacture  
IN Nomura, Juji; Sugiyama, Iwakichi; Watanabe, Akihisa  
PA Futaba Denshi Kogyo Kk, Japan; Matsumoto Seiyaku Kogyo Kk  
SO Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07166135	A2	19950627	JP 1993-316982	19931216
	JP 3300141	B2	20020708		
PRAI	JP 1993-316982		19931216		
OS	MARPAT 123:202379				
AB	Title compns., which are calcined to form acid- and alkali-resistant oxide films, contain aluminosilicate-titanosilicate chelates prepared by reacting Al alkoxides and Ti alkoxides, chelating with glycols, diketones, and/or ketoesters, and modifying with phosphate esters. A coating containing ZrO <sub>2</sub> and a polymer prepared from Ti(OBu) <sub>4</sub> dimer, 2-ethylhexane-1,3-diol (I), HPO(OBu) <sub>2</sub> , H <sub>2</sub> PO(OBu), and reaction product of (iso-PrO) <sub>3</sub> Al, I, and Et acetoacetate was screen printed on a glass plate, dried, and baked at 640° for 30 min to form 40-μm film with good adhesion and hardness.				
IC	ICM C09D185-00				
	ICS C08G079-00				
CC	42-10 (Coatings, Inks, and Related Products)				
ST	metal oxide film metal chelate coating; chem resistance metal oxide film coating; aluminosilicate titanosilicate chelate phosphate				

**coating**

IT Titanoxanes  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (aluminoxane-, manufacture of aluminoxane-titanoxane chelate phosphate **coatings** for oxide **film** formation)

IT **Coating** materials  
 (chemical resistant, hard; manufacture of aluminoxane-titanoxane chelate phosphates for oxide **film** formation)

IT Aluminoxanes  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (titanoxane-, manufacture of aluminoxane-titanoxane chelate phosphate **coatings** for oxide **film** formation)

IT 94-96-2DP, 2-Ethyl-1,3-hexane diol, chelates with alkoxyaluminum and alkoxytitanium polymers 107-66-4DP, Dibutyl phosphate, reaction products with aluminoxane-titanoxane/diol chelates 141-97-9DP, Ethyl acetoacetate, reaction products with aluminum alkoxides and chelates with hexanediols and reaction products with alkoxytitanate/diol products and phosphates 555-31-7DP, Aluminum triisopropoxide, reaction products with Et acetoacetate and chelates with hexanediols and reaction products with alkoxytitanate/diol products and phosphates 1623-15-0DP, Monobutyl phosphate, reaction products with aluminoxane-titanoxane/diol chelates 60755-39-7DP, Titanium tetrabutoxide dimer, chelates with hexanediols and reaction products with alkoxyaluminum/diol products and phosphates 140429-90-9DP, Yttrium octanoate, reaction products with alkoxyaluminum/alkoxytitanium polymer diol chelates and phosphates **168090-78-6DP**, chelates with hexanediols and reaction products with phosphates  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
 (manufacture of aluminoxane-titanoxane chelate phosphate **coatings** for oxide **film** formation)

IT **168090-78-6DP**, chelates with hexanediols and reaction products with phosphates  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
 (manufacture of aluminoxane-titanoxane chelate phosphate **coatings** for oxide **film** formation)

RN 168090-78-6 HCAPLUS

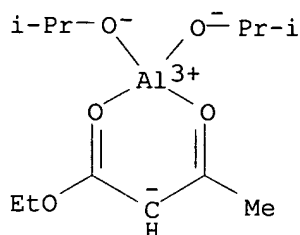
CN Aluminum, (ethyl 3-oxobutanoato-01',03)bis(2-propanolato)-, (T-4)-, polymer with 1-butanol titanium(4+) salt (9CI) (CA INDEX NAME)

CM 1

CRN 14782-75-3

CMF C12 H23 Al O5

CCI CCS



CM 2

CRN 5593-70-4

CMF C4 H10 O . 1/4 Ti

H<sub>3</sub>C-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-OH

● 1/4 Ti(IV)

L49 ANSWER 27 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1995:257785 HCAPLUS  
 DN 122:33647  
 TI Organoalkoxysilane/**metal oxide** sol-gel ultraviolet  
 radiation absorbing **coating**  
 IN Hanson, Michael E.; Hunia, Robert M.; Lin, Chia-Cheng  
 PA PPG Industries, Inc., USA  
 SO U.S., 6 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5328975	A	19940712	US 1993-42184	19930402
	DE 4410117	A1	19941006	DE 1994-4410117	19940324
	CN 1094074	A	19941026	CN 1994-103775	19940331
	JP 06322317	A2	19941122	JP 1994-64847	19940401
PRAI	US 1993-42184	A	19930402		

AB Organoalkoxysilanes RxSi(OR')<sub>4-x</sub> (R is an organic radical, R' is a low mol. weight alkyl radical, and x is 0-4) is partially hydrolyzed in organic solution and reacted with a titanium alkoxide Ti(OR'')<sub>4</sub> (R'' is a lower alkyl radical) or colloidal titania, then hydrolyzed, dried and heat treated (at ≥750°) to form a silicon oxide/titanium oxide abrasion-resistant **coating** on a substrate with high UV radiation absorbance. The absorbance of the **coating** at 320 nm is at least 0.5 per μm of **coating** thickness.

IC ICM C08G077-04

NCL 528029000

CC 42-10 (**Coatings**, Inks, and Related Products)  
 Section cross-reference(s): 57

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

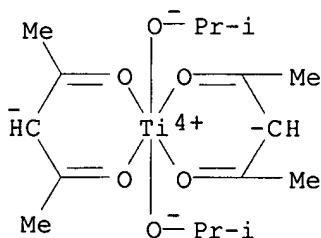
ST alkoxyasilane titanate copolymer **coating**; UV absorbing  
**coating** siloxane titanoxane  
IT **Coating** materials  
(UV-absorbing, organoalkoxyasilane/**metal oxide**  
sol-gel UV radiation absorbing **coating**)  
IT Titanoxanes  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(siloxane-, organoalkoxyasilane/**metal oxide** sol-gel  
UV radiation absorbing **coating**)  
IT Siloxanes and Silicones, uses  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(titanoxane-, organoalkoxyasilane/**metal oxide**  
sol-gel UV radiation absorbing **coating**)  
IT 13463-67-7DP, Titania, reaction products with hydrolyzed alkoxyasilanes  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(colloidal; organoalkoxyasilane/**metal oxide** sol-gel  
UV radiation absorbing **coating**)  
IT 159787-65-2P, Methacryloxypropyltrimethoxyasilane-titanium (IV)  
isopropoxide copolymer **159787-66-3P**,  
Methacryloxypropyltrimethoxyasilane-Tyzor GBA copolymer 159787-67-4P,  
Tetraethoxyasilane-titanium (IV) isopropoxide copolymer 159787-68-5P,  
γ-Glycidyloxypropyltrimethoxyasilane-titanium (IV) isopropoxide  
copolymer  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
use); **PREP (Preparation)**; USES (Uses)  
(organalkoxyasilane/**metal oxide** sol-gel UV  
radiation absorbing **coating**)  
IT **159787-66-3P**, Methacryloxypropyltrimethoxyasilane-Tyzor GBA  
copolymer  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
use); **PREP (Preparation)**; USES (Uses)  
(organalkoxyasilane/**metal oxide** sol-gel UV  
radiation absorbing **coating**)  
RN 159787-66-3 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with  
Tyzor GBA (9CI) (CA INDEX NAME)

CM 1

CRN 17927-72-9

CMF C16 H28 O6 Ti

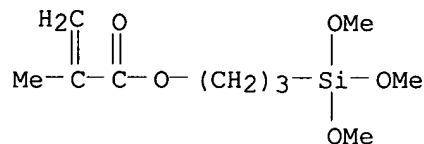
CCI CCS



CM 2

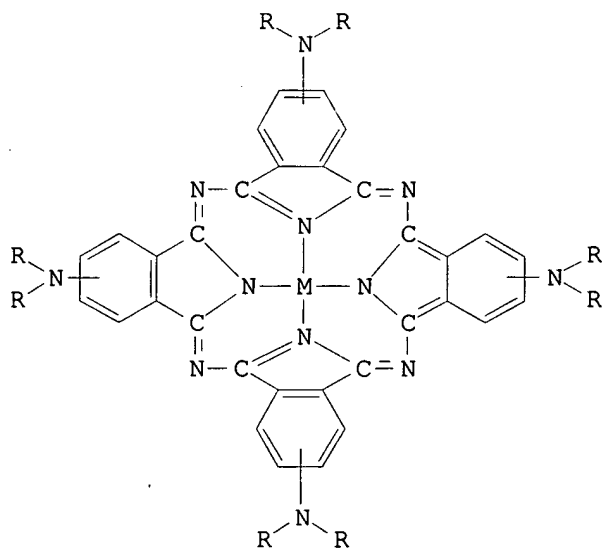
CRN 2530-85-0

CMF C10 H20 O5 Si



L49 ANSWER 28 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1991:103904 HCAPLUS  
 DN 114:103904  
 TI Phthalocyanine polymers and their manufacture and uses  
 IN Omichi, Takahiro; Iwata, Kaoru  
 PA Teijin Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

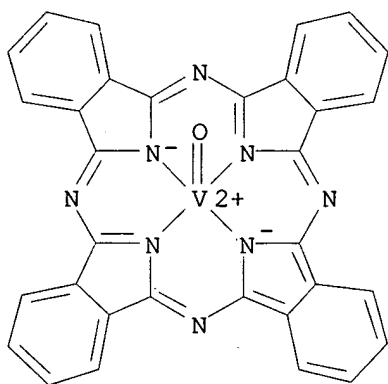
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02255726	A2	19901016	JP 1989-76728	19890330
PRAI	JP 1989-76728		19890330		
GI					



I

AB Polymers useful as electrochromic and **optical** recording materials contain the units of I (R = H, linking bonds; ≥2 of R are linking bonds; M = metal, O, halogen-containing metal). Thus, a **film** manufacture by electrochem. oxidation of vanadyl tetraaminophthalocyanine had good

electrochromic properties.  
 IC ICM C08G073-06  
 ICS C09B047-04  
 CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 35, 73, 76  
 ST phthalocyanine polymer **film** electrochromic; vanadyl  
 tetraaminophthalocyanine homopolymer electrochromic **film**  
 IT Electrochromic materials  
 (phthalocyanine polymers for, manufacture of)  
 IT Recording apparatus  
 (optical, phthalocyanine polymers for, manufacture of)  
 IT 132503-16-3P  
 RL: PREP (Preparation)  
 (films, electrochromic, manufacture of)  
 IT 132503-16-3P  
 RL: PREP (Preparation)  
 (films, electrochromic, manufacture of)  
 RN 132503-16-3 HCAPLUS  
 CN Vanadium, oxo[29H,31H-phthalocyanine-C,C,C,C-tetraminato(2-)-  
 N29,N30,N31,N32]-, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 132503-15-2  
 CMF C32 H20 N12 O V  
 CCI CCS, IDS



4 [ D1-NH<sub>2</sub> ]

L49 ANSWER 29 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1990:613972 HCAPLUS  
 DN 113:213972  
 TI Forming thin organic **films** on metals  
 IN Koshiishi, Kenji; Yano, Hirokazu; Mori, Koji; Masuhara, Kenichi  
 PA Nisshin Steel Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DT Patent

LA Japanese  
FAN.CNT 1

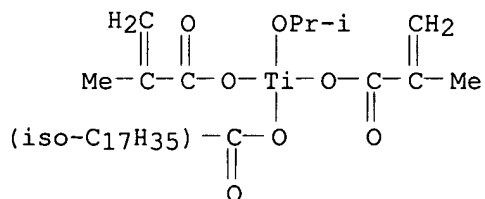
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02144177	A2	19900601	JP 1988-298963	19881126
PRAI	JP 1988-298963		19881126		
AB	The title <b>films</b> are formed with good adhesion by coating metals with unsatd. couplers, drying, coating with radiopolymerizable monomers, <b>curing</b> with 0.5-20 Mrad electron beams, and washing with solvents. Stainless steel was dipped in 1% aqueous 3-(trimethoxysilyl)propyl methacrylate for 5 s, dried, coated with (perfluorooctyl)ethyl methacrylate, irradiated with 5 Mrad electron beams, and washed with C2F3Cl3 to give a 500-Å water-repellent <b>film</b> with good adhesion.				
IC	ICM B05D007-14 ICS B05D003-06; B05D007-24				
CC	42-10 ( <b>Coatings</b> , Inks, and Related Products)				
ST	fluoropolymer coating ultrathin metal; coupler coating ultrathin metal; electron beam polymn coating; silane unsatd coupler coating; methacrylate silylalkyl coupler coating; stainless steel coating ultrathin				
IT	Coating process (of ultrathin <b>films</b> on metals, by radiochem. polymerization, couplers for)				
IT	Electron beam, chemical and physical effects (polymerization by, of ultrathin coatings on metals)				
IT	Coupling agents (unsatd., for ultrathin coatings on metals)				
IT	Polymerization (radiochem., in ultrathin coating preparation on metals)				
IT	35312-93-7P 106826-30-6P <b>130547-76-1P</b> RL: TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (coatings, ultrathin, for metals, radiopolymn. in preparation of)				
IT	<b>130547-76-1P</b> RL: TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (coatings, ultrathin, for metals, radiopolymn. in preparation of)				
RN	130547-76-1 HCAPLUS				
CN	Titanium, (isooctadecanoato-O)bis(2-methyl-2-propenoato-O)(2-propanolato)-, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-1-octene (9CI) (CA INDEX NAME)				

CM 1

CRN 61548-33-2

CMF C29 H52 O7 Ti

CCI IDS

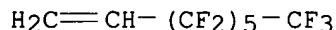




CM 2

CRN 25291-17-2

CMF C8 H3 F13



L49 ANSWER 30 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1990:200780 HCAPLUS

DN 112:200780

TI Water- and oil-repellent fluorine-containing coatings and their manufacture

IN Terao, Tatsu; Taguchi, Isamu; Kawasaki, Hiroaki; Akera, Fumio

PA Showa Denko K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01263158	A2	19891019	JP 1988-90323	19880414
PRAI	JP 1988-90323		19880414		

AB The title coatings contain Ti-containing polymers having trunk segments of hydrolytically polycondensed alkoxytitanium and branched segments of C4-16 F-containing alkyl groups. The coatings are manufactured by hydrolytic polycondensation of  $(\text{RfO})_n\text{Ti}(\text{OR})_{4-n}$  ( $\text{Rf}$  = C4-16 F-containing alkyl;  $\text{R}$  = H, Cl-10 alkyl;  $n$  = 1-4) in mixed solvents of F- and Cl-containing hydrocarbons and alkyl alcs. in the presence of (0.5-4):1 (equivalent) water. Thus, treating 17.0 parts  $\text{Ti}(\text{OBu})_4$  with 69.6 parts 1H,1H,2H,2H-perfluoro-1-decanol at  $160^\circ$  for 1 h gave  $(\text{BuO})\text{Ti}(\text{OC}_2\text{H}_4\text{C}_8\text{F}_{17})_3$ , 20.04 parts of which was dissolved in a mixture of 10.04 parts F 113 and 10.07 parts BuOH, then a mixture of 10.02 parts BuOH and 0.24 part water was added dropwise, stirred for 30 min, then **heated** at  $80^\circ$  for 4 h, and then evaporated at  $150^\circ$  for .apprx.2 h to give 11.95 parts polymer with mol. weight 12,000, 1 part of which was mixed with 100 parts trifluorochloroethane to give a coating. Then, glass substrates were dip-coated with the coating and dried for 24 h to give coating **films**, which showed contact angle to water and hexadecane 103.3 and  $67.2^\circ$ , cross-cut adhesion 100/100, and pencil hardness 2H.

IC ICM C09D003-49

CC 42-10 (Coatings, Inks, and Related Products)

ST fluorotitanate polymer coating water repellent; oil repellent

IT fluorotitanate polymer coating; titanate polymer fluorine coating

IT Coating materials

(oil- and water-resistant, fluorine-containing titanate hydrolytic polymers)

IT 126667-63-8 126667-65-0

RL: TEM (Technical or engineered material use); USES (Uses)  
(coatings, water- and oil-repellent)

IT 126551-43-7P 126667-64-9P

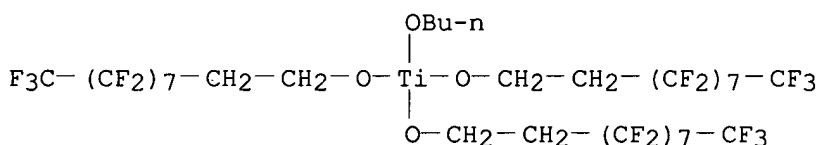
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)

(preparation and hydrolytic polymerization of)

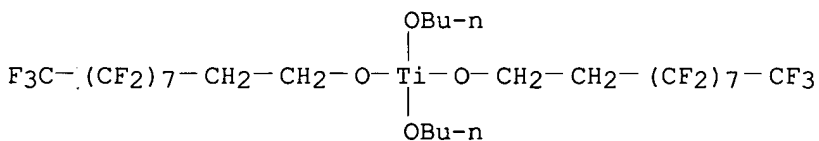
IT 5593-70-4, Tetrabutyl titanate

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with fluorodecanol)  
 IT 678-39-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with titanates)  
 IT 126667-63-8 126667-65-0  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (coatings, water- and oil-repellent)  
 RN 126667-63-8 HCAPLUS  
 CN Titanium, butoxytris(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-1-decanolato)-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 126551-43-7  
 CMF C34 H21 F51 O4 Ti



RN 126667-65-0 HCAPLUS  
 CN Titanium, dibutoxybis(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-1-decanolato)-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 126667-64-9  
 CMF C28 H26 F34 O4 Ti



L49 ANSWER 31 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1986:462356 HCAPLUS  
 DN 105:62356  
 TI Coating substrates  
 IN Davidson, Robert Stephen; Ellis, Richard John  
 PA Wiggins Teape Group Ltd., UK  
 SO PCT Int. Appl., 62 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8600084	A1	19860103	WO 1985-GB250	19850607
	W: AU, DK, FI, JP, NO, US				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	AU 8544318	A1	19860110	AU 1985-44318	19850607

AU 568024	B2	19871210		
EP 183764	A1	19860611	EP 1985-902617	19850607
EP 183764	B1	19871119		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 61502539	T2	19861106	JP 1985-502515	19850607
AT 30922	E	19871215	AT 1985-902617	19850607
CN 85106072	A	19870107	CN 1985-106072	19850711
DK 8600054	A	19860107	DK 1986-54	19860107
FI 8600082	A	19860108	FI 1986-82	19860108
FI 79546	B	19890929		
FI 79546	C	19900110		
NO 8600051	A	19860108	NO 1986-51	19860108
US 4748087	A	19880531	US 1987-102266	19870925
PRAI GB 1984-14705	A	19840608		
EP 1985-902617	A	19850607		
WO 1985-GB250	A	19850607		
US 1985-770193	A1	19850828		
US 1986-946140	A1	19861224		
AB	Abrasion- and solvent-resistant coatings for sheet substrates are prepared from electron-beam curable compns. containing $\geq 1$ R1mMR2n [R1 = (substituted) alkyl, alkenyl, cycloalkyl, aralkyl, (substituted) aryl, or alkoxy; R2 = OZCOCH:CHR3, Z = direct bond, C2-16 alkylene, poly(oxyalkylene), or [(CH2)rCO2]s(CH2CHR4O)p, R3 = H or Me; R4 = C1-4 alkyl; n = 1-4; m = 4-n; r = 3-8; p = 1-3; s = 1-3; M = Sn, Si, Ti(O)m, Zr(O)m, or Si(O)m]. Thus, a mixture containing dodecylsilyl trichloride 1, 2-hydroxyethyl acrylate 3, and triethylamine, 3 M in 100 mL Et2O was refluxed for 2 h to give dodecylsilyl tris(hydroxyethyl acrylate) (I). I was coated (29.0 gm-2) on paper and cured (2.5 kGy) to give a coating with Me2CO double rubs >500, abrasion resistance 7 (felt pad covered with a glass paper, double rubs), brittleness value 2 (fracture at crease of folded coated paper, 0 not brittle, 5 very brittle), surface adhesion value 2 (removal of coating using adhesive tape, 0 best, 5 worst), cross-hatch adhesion 2 (0 best, 5 worst), and pencil hardness H.			
IC	ICM C09D003-80			
	ICS D21H001-34; C08F220-00; C08F230-00			
CC	42-10 (Coatings, Inks, and Related Products)			
	Section cross-reference(s): 35, 37, 43			
ST	dodecylsilyl hydroxyethyl acrylate polymer coating; siloxyethyl acrylate polymer coating paper; radiochem curing organometal acrylate coating; abrasion resistant coating paper; solvent resistant coating paper			
IT	Electron beam, chemical and physical effects			
	(crosslinking by, of unsatd. organometallic compound polymer coatings)			
IT	Coating materials			
	(abrasion- and solvent-resistant, electron beam-curable, alkylmetal acrylate polymer, for paper)			
IT	Coating materials			
	(abrasion-resistant, electron-beam-curable, acrylic polymers, for paper)			
IT	Abrasion-resistant materials			
	(coatings, electron beam-curable, alkylmetal acrylate polymer, for paper)			
IT	Abrasion-resistant materials			
	(coatings, electron-beam-curable, acrylic polymers, for paper)			
IT	Crosslinking			
	(radiochem., of coatings of unsatd. organometallic compound polymers, by electron beams)			
IT	21843-46-9D, polymers with polyester acrylates 25034-61-1 103017-79-4			
	103017-81-8	103017-83-0	103017-85-2	103017-87-4 103017-89-6
	103052-54-6	103052-55-7	103104-71-8	103104-73-0

103104-75-2 **103104-77-4** 103104-79-6 103104-81-0  
 103104-83-2 103104-85-4 103104-87-6 103104-89-8 103104-91-2  
 103104-93-4 103104-95-6 103104-97-8 103104-99-0 103105-01-7  
 103105-03-9 103105-04-0 103105-06-2 103105-07-3 103105-08-4  
 103105-09-5 **103105-11-9** 103105-13-1 103105-15-3  
 103105-17-5 103105-19-7 103105-21-1 103105-23-3 103105-25-5  
 103105-27-7 103105-28-8 103105-30-2 103105-32-4 103105-34-6  
 103105-35-7 103105-37-9 103105-39-1 103105-41-5 103105-42-6  
 103105-43-7 103105-44-8 103105-45-9 **103133-53-5**  
 103133-55-7 103133-57-9 **103133-58-0** 103183-00-2  
 103432-69-5 104647-45-2

RL: TEM (Technical or engineered material use); USES (Uses)  
 (coatings, electron beam-curable, for paper)

IT 13331-52-7P 18292-15-4P 21843-46-9P 23519-62-2P 24685-66-3P  
 62480-06-2P 88591-35-9P 103017-78-3P 103017-80-7P 103017-82-9P  
 103017-86-3P 103017-88-5P 103104-72-9P 103104-74-1P 103104-76-3P  
 103104-78-5P 103104-80-9P 103104-82-1P 103104-84-3P 103104-86-5P  
 103104-88-7P 103104-90-1P 103104-92-3P 103104-94-5P 103104-98-9P  
 103105-00-6P 103105-02-8P 103105-05-1P 103105-10-8P 103105-14-2P  
 103105-16-4P 103105-18-6P 103105-20-0P 103105-24-4P 103105-26-6P  
 103105-29-9P 103105-31-3P 103105-36-8P 103105-38-0P 103105-40-4P  
 103133-52-4P 103133-54-6P 103133-56-8P 103140-98-3P 103140-99-4P  
 103141-00-0P 103141-01-1P 103141-02-2P 103141-03-3P 103141-04-4P  
 103141-05-5P 103141-06-6P 103141-07-7P 103174-15-8P 103237-72-5P  
 103903-92-0P

RL: PREP (Preparation)

(manufacture of, for electron beam-curable coatings)

IT 56-35-9 546-68-9 818-08-6 1066-35-9 1067-52-3 1067-55-6  
 2273-43-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with acrylic acid or acrylate derivative)

IT 80413-52-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with alkyl **metal oxide** or silyl compound)

IT 79-10-7, reactions 818-61-1 10095-14-4 16695-45-7 86282-43-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with alkylmetal oxide or silyl compound)

IT **103104-71-8 103104-73-0 103104-77-4**

**103105-11-9 103133-53-5 103133-58-0**

RL: TEM (Technical or engineered material use); USES (Uses)

(coatings, electron beam-curable, for paper)

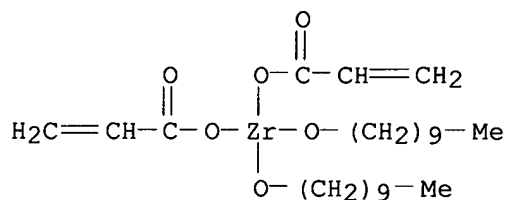
RN 103104-71-8 HCAPLUS

CN Zirconium, bis(decyloxy)bis(2-propenoato-O)-, (T-4)-, homopolymer (9CI)  
 (CA INDEX NAME)

CM 1

CRN 103104-70-7

CMF C26 H48 O6 Zr



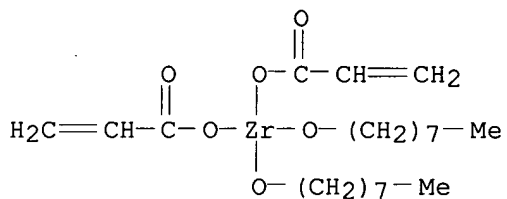
RN 103104-73-0 HCAPLUS

CN Zirconium, bis(octyloxy)bis(2-propenoato-O)-, (T-4)-, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

CRN 103104-72-9

CMF C22 H40 O6 Zr



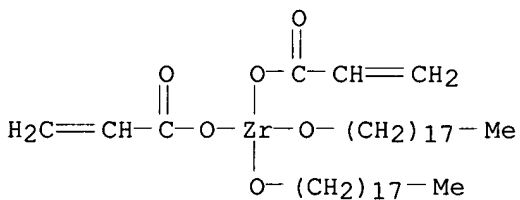
RN 103104-77-4 HCAPLUS

CN Zirconium, bis(1-octadecanolato)bis(2-propenoato-O)-, (T-4)-, polymer with  
1,2-ethanediylbis(oxy-2,1-ethanediyl) di-2-propenoate (9CI) (CA INDEX  
NAME)

CM 1

CRN 103104-76-3

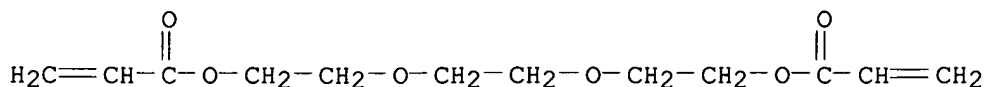
CMF C42 H80 O6 Zr



CM 2

CRN 1680-21-3

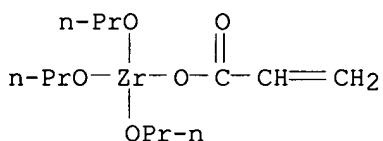
CMF C12 H18 O6



RN 103105-11-9 HCAPLUS  
 CN Zirconium, (2-propenoato-O)tripropoxy-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

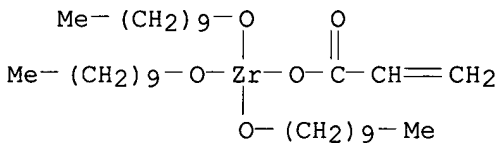
CRN 103105-10-8  
 CMF C12 H24 O5 Zr



RN 103133-53-5 HCAPLUS  
 CN Zirconium, tris(decyloxy)(2-propenoato-O)-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

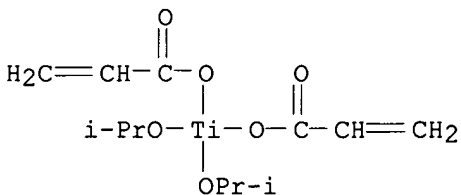
CRN 103133-52-4  
 CMF C33 H66 O5 Zr



RN 103133-58-0 HCAPLUS  
 CN Titanium, bis(2-propanolato)bis(2-propenoato-O)-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

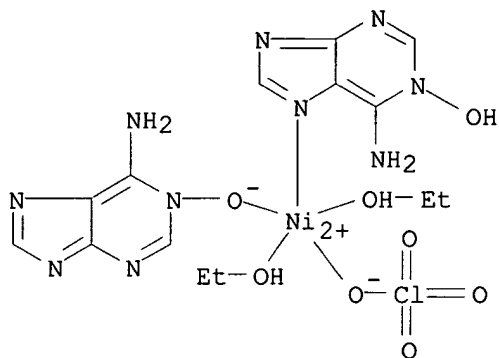
CRN 80785-42-8  
 CMF C12 H20 O6 Ti



L49 ANSWER 32 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1982:62124 HCAPLUS  
 DN 96:62124  
 TI Adenine N(1)-oxide complexes with first row transition metal perchlorates  
 AU Mikulski, Chester M.; De Prince, Randolph; Thu Ba Tran; Iaconianni, Frank  
 J.; Pytlewski, Louis L.; Specca, Anthony N.; Karayannis, Nicholas M.  
 CS Dep. Chem. Phys., Beaver Coll., Glenside, PA, 19038, USA  
 SO Inorganica Chimica Acta (1981), 56(5-6), 163-70  
 CODEN: ICHAA3; ISSN: 0020-1693  
 DT Journal  
 LA English  
 AB A series of adenine N(1)-oxide (LH) complexes with 3d metal perchlorates were prepared by refluxing mixts. of ligand and salt in EtOH-tri-Et orthoformate. Characterization studies revealed significant differences in ligand binding sites and probable complex structural types, with metal ion variation. Thus,  $[\text{Cr}(\text{LH})_2(\text{OClO}_3)_2(\text{nEtOH})_2](\text{ClO}_4)$  and  $[\text{M}(\text{LH})_2(\text{OClO}_3)(\text{EtOH})_2](\text{ClO}_4)$  ( $\text{M} = \text{Mn}, \text{Zn}$ ) seem to be monomeric with unidentate, imidazole N bonded (most probably N(7)) LH, whereas the  $\text{Co}^{2+}$  analog of the latter 2 complexes is apparently a linear polymer, with single bridges of bidentate O(1), N(7)-bonded LH, as well as terminal unidentate imidazole N-bonded ligand groups. The rest of the complexes involve both neutral LH and anionic L- ligands. The subnormal room temperature magnetic moment of the  $\text{Cu}^{2+}$  complex (1.68  $\mu\text{B}$ ) favors a triple ligand-bridged structure of the  $[(\text{O}_3\text{ClO})\text{Cu}(\text{LH})\text{L}_2\text{Cu}(\text{OClO}_3)]$  type, with O(1), N(7)-bonded bridging ligands.  $\text{Ni}(\text{LH})\text{L}(\text{ClO}_4) \cdot 2\text{EtOH}$  and  $\text{Fe}(\text{LH})_2\text{L}(\text{ClO}_4)_2$  were considered as linear polymers, with single bridges of O(1), N(7)-bonded adenine N(1)-oxide ligands; the rest of the ligands present seem to be germinal, unidentate imidazole N-bonded for  $\text{M} = \text{Ni}^{2+}$  and bidentate chelating, O(1), N(6)-bonded for  $\text{M} = \text{Fe}^{3+}$ .  
 CC 78-7 (Inorganic Chemicals and Reactions)  
 Section cross-reference(s): 73  
 ST spectra adenine **oxide** transition **metal**; transition **metal** adenine **oxide** complex; chromium adenine oxide complex; manganese adenine oxide complex; iron adenine oxide complex; cobalt adenine oxide complex; nickel adenine oxide complex; copper adenine oxide complex; zinc adenine oxide complex  
 IT Infrared spectra  
 Ultraviolet and visible spectra  
 (of transition metal complexes with adenine-N(1)-oxide)  
 IT Energy level splitting  
 (crystal-field, of cobalt and copper and nickel complexes with adenine N(1)-oxide)  
 IT 80602-66-0P 80602-70-6P **80602-98-8P** 80603-00-5P  
 80618-87-7P **80618-89-9P**  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and IR and electronic spectra of)  
 IT 700-02-7DP, copper complexes 7440-50-8DP, complexes with adenine oxide  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT **80602-98-8P 80618-89-9P**  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and IR and electronic spectra of)  
 RN 80602-98-8 HCAPLUS  
 CN Nickel, bis(ethanol)(1-hydroxy-1H-purin-6-aminato-O)(1-hydroxy-1H-purin-6-amine-N7)(perchlorato-O)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

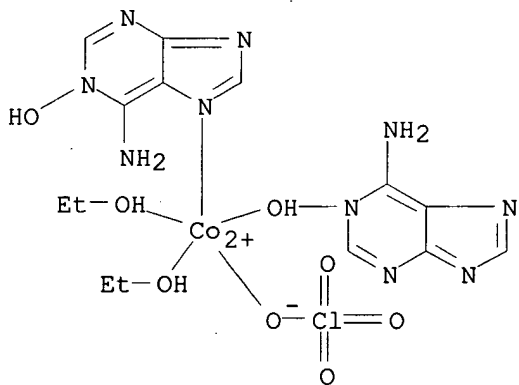
CRN 80602-97-7  
CMF C14 H21 Cl N10 Ni O8  
CCI CCS



RN 80618-89-9 HCAPLUS  
CN Cobalt(1+), bis(ethanol)(1-hydroxy-1H-purin-6-amine-N7)(1-hydroxy-1H-purin-6-amine-O)(perchlorato-O)-, perchlorate, homopolymer (9CI) (CA INDEX NAME)

CM 1

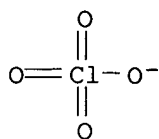
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CMF C14 H22 Cl Co N10 O8  
CCI CCS



CM 2

CRN 14797-73-0  
CMF Cl O4





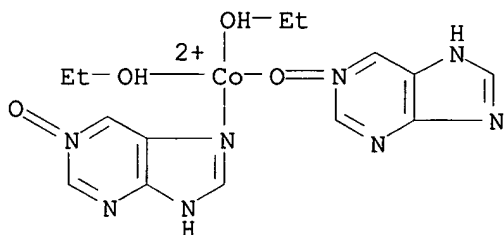
L49 ANSWER 33 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1981:543318 HCAPLUS  
 DN 95:143318  
 TI Purine N(1)-oxide complexes with 3d metal perchlorates  
 AU Mikulski, Chester M.; De Prince, Randolph; Tran, Thu Ba; Karayannis, Nicholas M.  
 CS Dep. Chem. Phys., Beaver Coll., Glenside, PA, 19038, USA  
 SO Inorganica Chimica Acta (1981), 56(1), 27-34  
 CODEN: ICHAA3; ISSN: 0020-1693  
 DT Journal  
 LA English  
 AB A series of purine N(1)-oxide (LH) complexes with 3d metal perchlorates were prepared by refluxing mixts. of ligand and salt in EtOH-HC(OEt)3. In one case (M = Cr3+), an apparently hexacoordinated monomeric complex of the [Cr(LH)2(EtOH)2(OC1O3)2](ClO4) type, with terminal imidazole N-bonded LH was isolated (N(7) and N(9) are considered as equally likely binding sites for terminal unidentate LH). A number of pentacoordinated M2+ complexes of the M(LH)2(EtOH)(ClO4)2 type (M = Mn, Fe, Ni, Cu, Zn) contain exclusively bidentate bridging LH, coordinated through the O(1) and one of the imidazole N atoms (most probably N(7)); whereas, Co(LH)2(EtOH)2(ClO4)2 (pentacoordinated) and Fe(LH)3(ClO4)3 (hexacoordinated) involve both bidentate bridging ligands of the preceding type and terminal unidentate imidazole N-bonded LH groups. Since all of the new polymeric complexes show normal ambient-temperature magnetic moments, structural types involving single -M-LH-M-LH- bridges are considered as most probable. Simple linear chain-like structures with -M-LH-M-LH- sequences are proposed for the Co2+ and Fe3+ complexes (the later compound also contains 1 bidentate O2ClO2 ligand per Fe3+ ion), whereas for the Mn2+, Fe2+, Ni2+, Cu2+, and Zn2+ compds. a more complicated structural type, involving crosslinking of linear chains of the preceding type is likely.  
 CC 78-7 (Inorganic Chemicals and Reactions)  
 Section cross-reference(s): 73  
 ST purine **oxide** transition **metal** perchlorate; IR spectra  
 purine oxide complex  
 IT Infrared spectra  
 (at transition metal complexes with purine N-oxide)  
 IT Transition metals, compounds  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (purine N-oxide complexes, preparation and IR spectra of)  
 IT 78970-82-8P 78970-84-0P 78970-86-2P 78970-88-4P 78970-90-8P  
 78990-58-6P 79152-32-2P **79152-52-6P**  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and IR spectrum of)  
 IT **79152-52-6P**  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and IR spectrum of)  
 RN 79152-52-6 HCAPLUS  
 CN Cobalt(2+), bis(ethanol)(3H-purine 1-oxide-N7)(3H-purine 1-oxide-O)-, (T-4)-, diperchlorate, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79152-51-5

CMF C14 H20 Co N8 O4

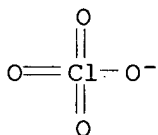
CCI CCS



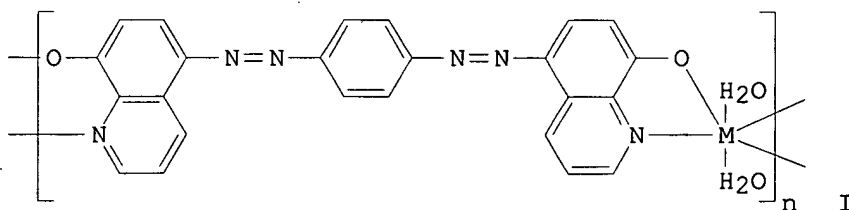
CM 2

CRN 14797-73-0

CMF Cl O4



L49 ANSWER 34 OF 34 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1980:182547 HCAPLUS  
 DN 92:182547  
 TI Polymeric metallated organic pigments  
 AU Banerjee, Vishwanath; Dey, Arun K.  
 CS Chem. Lab., Univ. Allahabad, Allahabad, 211002, India  
 SO Makromolekulare Chemie, Rapid Communications (1980), 1(1), 41-6  
 CODEN: MCRCD4; ISSN: 0173-2803  
 DT Journal  
 LA English  
 GI



AB The insol. pigments, I, M = Co(II) [73436-64-3], Ni(II) [73436-66-5], or

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

Cu(II) [73436-68-7], were prepared by heating the corresponding metal acetate hydrates with equimolar 5,5'-(p-phenylenebisazo)diquinoline-8-ol for 6 h in DMSO. The structure of the polymeric metal complexes was confirmed by IR and UV-visible reflectance spectra, and magnetic susceptibilities were determined by Gouy's method at room temperature. The decomposition

temps. were for I, M = Co (II), Ni (II) and Cu (II) 280°, 280° and 260°, resp. Residues from samples heated up to 900° at 10°/min in air did not conform to **metal oxides** alone, indicating that the decomposition of organic moiety remained incomplete even at 900°.

CC 40-4 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)  
Section cross-reference(s): 36, 42

ST polymer metal complex pigment; phenylenebisazodiquinolinal metal complex polymer; cobalt complex polymer pigment; nickel complex polymer pigment; copper complex polymer pigment; azo dye polymeric pigment

IT Pigments  
((phenylenebisazo)diquinolinal polymeric metal complexes)

IT Dyes, azo  
(poly-, (phenylenebisazo)diquinolinal polymeric metal complexes)

IT **73436-64-3P 73436-66-5P 73436-68-7P**  
RL: IMF (Industrial manufacture); **PREP (Preparation)**  
(pigments, manufacture of)

IT **73436-64-3P 73436-66-5P 73436-68-7P**  
RL: IMF (Industrial manufacture); **PREP (Preparation)**  
(pigments, manufacture of)

RN 73436-64-3 HCAPLUS

CN Cobalt, diaqua[[5,5'-[1,4-phenylenebis(azo)]bis[8-quinolinolato]](2-)-N1,O8]-, homopolymer (9CI) (CA INDEX NAME)

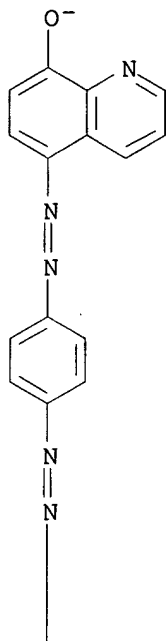
CM 1

CRN 73436-63-2

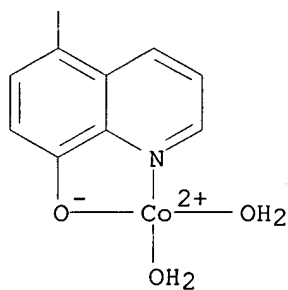
CMF C24 H18 Co N6 O4

CCI CCS

PAGE 1-A

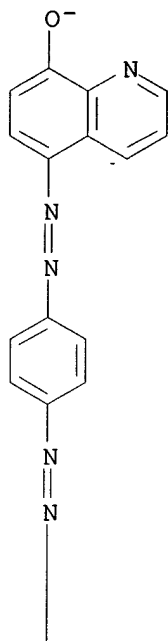


PAGE 2-A

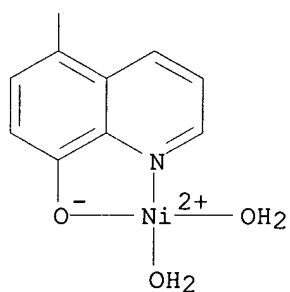


RN 73436-66-5 HCAPLUS  
 CN Nickel, diaqua[[5,5'-[1,4-phenylenebis(azo)]bis[8-quinolinolato]](2-)-  
 N1,O8]-, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 73436-65-4  
 CMF C24 H18 N6 Ni O4  
 CCI CCS

PAGE 1-A



PAGE 2-A

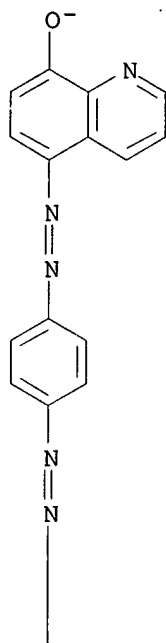


RN 73436-68-7 HCAPLUS  
 CN Copper, diaqua[[5,5'-[1,4-phenylenebis(azo)]bis[8-quinolinolato]](2-)-N1,O8]-, homopolymer (9CI) (CA INDEX NAME)

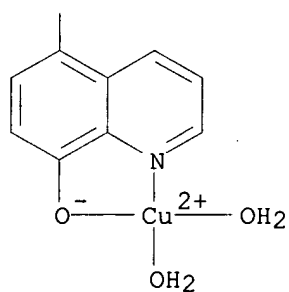
CM 1

CRN 73436-67-6  
 CMF C24 H18 Cu N6 O4  
 CCI CCS

PAGE 1-A



PAGE 2-A



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